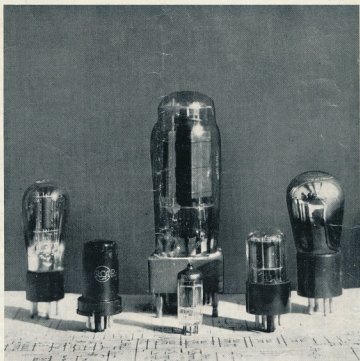


# A M A T E U R R A D I O

SEPTEMBER 1963



Vol. 31, No. 9

2/-

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# "AMATEUR RADIO"

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SEPTEMBER 1963

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## OUR COVER

During the past thirty-five years  
circuit components have been reduced  
in size and values are no excep-  
tion. Our cover shows a typical  
series of valves used during the past  
decades, and clearly shows the size  
reduction; all are of the same type.

## FEDERAL COMMENT

★

At the Convention in Sydney earlier this year, the Federal Councillors agreed to put various schemes into operation immediately to raise monies from their members for the purpose of financing the trip of a W.I.A. representative to Geneva for the next International Telecommunication Conference. Each Division was given a subscription target figure based on their proportion of the total Institute membership, the total amount being estimated as about £3500.

Several Divisions have already made appeals to their members for subscriptions—some based on a small fixed amount for two or three years added to their membership dues, while other Divisions have thoughts on raising their quota by direct donations from their members. However, the important point is not so much how the money is raised, but why.

Most members of the W.I.A. have so often heard those familiar words—"to protect your frequencies"—that they have now become meaningless. Nevertheless, this statement is just as valid today as when it was first made. Commercial pressures at future conferences will be heavier than ever before, in addition to the clamour of many new services inaugurated at the last conference.

One might question the need for the Institute to send a delegate overseas but the reasons are many. The most important of these is that he is able to meet and discuss the Institute's problems with other societies' representatives and his very presence at the Conference will impress anyone that the Institute is taking the whole matter very seriously, to the extent of raising sufficient funds to send him and keep him there. For an Institute as numerically small as ours, compared with other overseas societies, this must reflect itself in added prestige. There are other less obvious reasons, all of which taken together, make it imperative for us always to send an Institute delegate to these conferences.

Your Divisional Council will in the near future be asking for your subscription or donation in a manner to be decided by them. Whatever amount is decided will be insignificant when compared with the price of other commodities today and will be a small enough price to pay for the continuance of our privileges. Be sure you subscribe to this fighting fund—be you an Institute member or not—for you may rest assured that any amount will be gratefully received and faithfully applied.

FEDERAL EXECUTIVE, W.I.A.

## CONTENTS

Double Conversion With No Con- fusion .....	2	Jamboree-on-the-Air, 19th and 20th October .....	13
Pye Radio-Telephones .....	5	Book Review: More About Loudspeakers .....	11
A Transistorised S.s.b. Receiver ..	7	"CQ" Amateur Radio Anthology II .....	11
Determining Mixer Current .....	8	Radio Data Reference Book .....	11
A Sweep Generator for Aligning High Frequency Crystal Filters ..	8	Understanding Amateur Radio ..	11
Further Notes on Modifying AR7 for S.s.b. ....	8	The World Radio T.V. Hand- book .....	11
Spurious Responses in FT243 Crystals .....	9	Correspondence .....	16
Another Method of Generating S.s.b. ....	10	Federal and Divisional Monthly News Reports .....	18
Technical Correspondence: Over- tone Frequency of Crystals .....	13	DX .....	17
Sideband Topics: Do You Offend? .....	9	SWL .....	14
160 Metres—U.S.A. ....	9	Youth Radio Clubs .....	14
Do You Know Your "Istors"? .....	6	VHF .....	15

## Double Conversion With No Confusion

J. D. PURDON,\* VK4PU

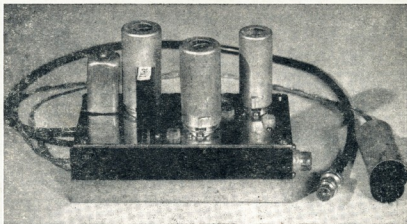
The circuit diagram with this article is of the Mark I. version, whereas the photographs are of the Mark II. version. The author recommends the inclusion of the L.T. R.F. choke visible in the photograph, but not shown in the circuit, as the omission of this component could lead to real strife.—Editor.

**M**OST mobile receiving systems are designed around the use of a high frequency converter working into the standard b.c. car receiver, which serves as a tunable i.f. and audio amplifier. The car receiver is modified in most instances to take a noise limiter and provide power for the converter.

With the 50 megacycle band and image rejection in mind, a double conversion is preferable and yet, the usual method of employing two crystals becomes sufficiently expensive to deter most of us from taking advantage of it. While on the other hand the one crystal plus one self excited stage, though usable, is not highly desirable for obvious reasons. However, if double conversion and crystal control throughout can be achieved with the use of only one crystal, these objections are no longer valid.

So it was with these thoughts uppermost that the following circuit was developed using a crystal around 7.360 Mc. Almost the first megacycle of six metres can be covered on the broadcast

\* Hill Street, Woombye, Qld.



### Double Conversion Converter

dial, leaving a little room to spare below the band. Two of these converters have been constructed and are in use at the present time, giving really excellent performance.

Briefly, this is what happens. As shown in Fig. 1, a 6AN7, with its output on the broadcast band, has a crystal oscillating at 7.360 Mc. This frequency is multiplied six times in the triode section of a 6BL8; the product, 44.160 Mc., is mixed in the pentode section of the same tube with the incoming 50 Mc. signals from a 6AG5 r.f. amplifier. Now we do our sums and find that the difference frequency of 50 Mc.

minus 44.160 Mc. equals 5.840 Mc. This 5.840 Mc. signal is fed into the 6AN7 where it mixes with the original crystal frequency 7.360 Mc. Again the difference frequency, 7.360 — 5.840 equals 1.520 Kc., the top end of the b.c. band. The receiver tunes down in frequency to tune up on the 6 metre band.

It is of passing interest only, but perhaps worthy of mention here, that although this crystal frequency was chosen for the 50 Mc. mobile converter in particular, by a happy coincidence it also works out conveniently for the 21 and 28 Mc. bands. 21 Mc., using the fourth harmonic, falls on 1080 to 630

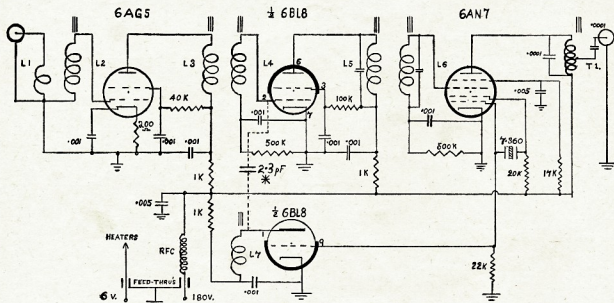


Fig. 1.—Double Conversion Converter. \* May not be required.



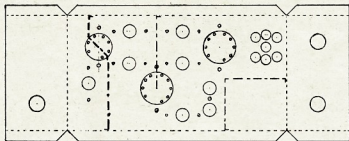


Fig. 2—Half Scale Template. Dimensions after bending,  $5\frac{1}{4} \times 2\frac{1}{2} \times 1\frac{1}{2}$  inches. Bend up along the dotted lines. Shields shown as broken lines.

Kc. 28 Mc., using the fifth harmonic, falls on 1440 to 540 Kc.

For those of you who may be reluctant to embark on a project such as this, in view of the impending loss of 50 Mc. to certain victorious commercial interests, take heart! by simply buying a rock 10 kc. lower, you can still have some of your cake and the 52 Mc. band as well.

As before, the crystal operates in the 6AN7 but at 7350 Mc. this time, multiplied six times it becomes 44,100 Mc. 52 Mc. — 44,100 Mc. equals 7,900 Mc. Now subtract the crystal frequency from 7,900 Mc. and Q.E.D., 550 Kc. This time, the receiver tunes up in frequency on the b.c. band to tune up to 53 Mc. Naturally the coil dimensions will have to be changed somewhat, but in the case of L2, L3, L4 and L7 this would amount to no more than a turn or two at the most. As for L5 and L6, the modification mentioned later in the article regarding these coils would be most effective.

## CONSTRUCTION

The accompanying under-chassis photograph and the half-scale template should make the job easier and no difficulty should be experienced in laying out all the components providing they are the miniature disc ceramics, feed-throughs, and  $\frac{1}{4}$ -watt resistors as used here.

Tie points are provided by using feed-through capacitors in some instances, and in others by the collars of the coil formers themselves which incidentally are 6d. 5.5 Mc. video coils somewhat modified.

It may be as well to draw attention at this point to the differences between the prototype and the Mark II. version. The latter, although using essentially the same circuit, was re-arranged for a more compact layout and utilises a 12 volt heater run. It is this version which is shown in the photographs and template diagram.

The coils L5 and L6 were modified by replacing the original turns with pies from miniature i.f. transformers, and omitting the parallel capacitors, thereby broadening the bandpass. However, to avoid confusion, the coil data as used in the original version is listed here, and the constructor may experiment as he thinks fit. Some experiment with the output transformer T1 may be helpful also, in order to get optimum matching into the receiver.

In both Mark I. and Mark II., T1 is an aerial coil from a car radio coil kit and output was taken through a 100

pF. capacitor from a tapping on what is normally the grid coil.

The shield across the r.f. amplifier socket must not be omitted and should extend the full width and depth of the chassis. There are three shields all told, shown on the template as broken lines.

The cable carrying h.t. and l.t. is run in shielded wire, well grounded at both ends and terminated by a suitable plug for attachment to the receiver power supply.

A handy anchorage for both the coax and shielded pair is provided by discarded potentiometer shaft bearings which are first carefully soldered to the braid and then held in place in the chassis by their hexagonal nuts.

## COIL DATA

All r.f. coils are 5.5 Mc. video coils, or  $5/16"$  diam., 28 gauge, with slug.

L1—24 turns on the cold end of L2.

L2—Remove 200 pF. capacitor, leave the slug and 13 turns.

L3—Remove 200 pF. capacitor, leave the slug and 15 turns.

L4—Remove 200 pF. capacitor, leave the slug and 13 turns.

L5—Leave as is.

L6—Leave as is.

L7—Remove 200 pF. capacitor, leave slug and 17 turns.

T1—Miniature aerial coil.

R.F.C.—50 turns 30 gauge enamel wire close wound on a 1 meg. 1 watt resistor.

## ALIGNMENT PROCEDURE

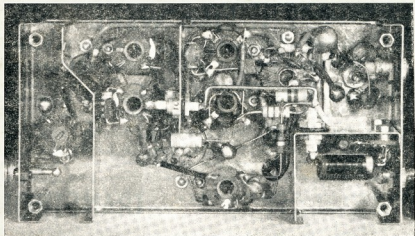
Assuming that all coils have been grid-dipped reasonably close, the converter is plugged into the receiver or power source, the valves light up, and that whisp of smoke is only from your cigarette after all!

Make sure the crystal is oscillating, either by listening to it on a nearby receiver or reading the grid current. Then inject a low level 6 Mc. signal into the 6AN7 grid. Peak T1 about the centre of the b.c. band. Move the generator or signal source up to the grid of the first mixer (pin 2, 6BL8) and roughly peak L5 and L6. These can be stagger tuned later. The 6 Mc. signal is removed and a 50 Mc. one lightly coupled in its stead. Peak the core of L7, the multiplier coil.

If everything has gone according to plan thus far, it should be possible to place the base cover on our converter and complete the alignment from above the chassis with the antenna connected. Simply run the signal generator nearby and peak the core of L2, L3 and L4 until you are sure of the signal, then stagger tune L2, L3, L4, L5 and L6 for even response across the band.

That's all there is to it. Three feet of wire clipped to the generator or a crystal oscillator will provide an S9 signal 50 yards away.

In conclusion, I would like to express my gratitude to Don Stoner for having in his excellent Sideband Handbook given me the clue for this unique method of crystal juggling. To VK4VB, who loaned me the Handbook in the first place and is still patiently waiting for my carrier and lower sideband to disappear. To Ken Chiverton for constructing and photographing the streamlined Mark II. model and ably abetting me in the presentation of this article. Last and by no means least, to that stalwart v.h.f. gentleman whose name heads the W.A.S. 50 Mc. list, without whose encouragement, I would never have been game to try.



Under-chassis view of Converter.



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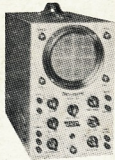
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# PYE RADIO-TELEPHONES

With the advent of these units through W.I.A. disposals, Amateurs will no doubt be interested in the details regarding these units. The Publications Committee has a copy of the circuit diagram, but unfortunately it is not suitable for reproduction in these pages. However, arrangements have been made to supply photo copies at a cost of 3/- each to those interested.

Two basic types were produced, namely PTC116 operating between 60 and 100 Mc., and PTC117 operating between 100 and 184 Mc. These models operate from 12 volts d.c. Models for 6 volt operation have the suffix A, e.g. PTC116A. Some models may have the suffix W. These are fitted with wide-band transformers.

The transmitters are amplitude modulated, and using the double button carbon microphone supplied had a frequency response quoted as  $\pm 2$  db. from 100 to 3,000 c.p.s.

The valve line-up is xtal oscillator-multiplier, EF91; first multiplier, EL91; second multiplier (used in PTC117 only), L77; power amplifier, ECC91; modulator, EL42; the power output being better than 2.5 watts at 60 Mc., and better than 1 watt at 185 Mc.

The transmitter crystal frequency can be calculated from the following table:—

- PTC116 (60-100 Mc.):  
carrier frequency  $\div 6$ .  
PTC117 (100-120 Mc.):  
carrier frequency  $\div 8$ .  
PTC117 (120-184 Mc.):  
carrier frequency  $\div 12$ .

The receiver is crystal locked and signal strength can be calculated as follows:—

- PTC116 (60-80 Mc.):  
(carrier freq.  $\div 2.9$  Mc.)  $\div 7$ .  
PTC116 (80-100 Mc.):  
(carrier freq.  $\div 2.9$  Mc.)  $\div 9$ .  
PTC117 (100-140 Mc.):  
(carrier freq.  $\div 2.9$  Mc.)  $\div 11$ .  
PTC117 (140-184 Mc.):  
(carrier freq.  $\div 2.9$  Mc.)  $\div 17$ .

A receiver sensitivity of  $2 \mu\text{V}$ , for an a.f. output of 50 mW, from a test signal modulated 30% at 400 c.p.s. may be expected. The signal to noise ratio is 8 db, or better for  $1 \mu\text{V}$  input signal.

The a.v.c. characteristic is level within  $\pm 3$  db. for r.f. inputs between  $5 \mu\text{V}$  and 100 mV. Maximum a.f. output is one watt into a three ohm speaker. An impulse type noise limiter is fitted.

First i.f. image response of model PTC116 is 75 db. down, and all other spurious responses 80 db. down. For model PTC117 they are 55 and 60 db. respectively. The first i.f. frequency is the crystal plus 2.9 Mc., and the second i.f. frequency 2.9 Mc.

The valve line-up for the receiver uses five EF91s, two EF92s, one each DH77 and EL42.

The r.f. amplifier, crystal oscillator-multiplier, multiplier, first mixer and second i.f. amplifier are EF91s. The second mixer and first i.f. amplifier are EF92s. The DH77 is the detector, a.v.c. and a.f. amplifier. Audio output is provided by the EL42 which is also the modulator tube. The PTC

117 model uses a 6AK5 as the r.f. amplifier instead of an EF91.

The 12 volt models take 3 amps. on receive only, 3.5 amps. on stand-by, and 4 amps. on transmit. Approximately double these currents are drawn by the 6 volt models.

The eight-pin socket on the side of the unit is used to connect a test meter

(Type PTC405A) for alignment purposes. Although the Publication Committee have details of this test meter, it is considered that the average Amateur will be able to align this equipment with instruments already in his possession.

—Written by "A.R." staff from information supplied by I. F. Berwick, VK3ALZ.

## Converting Units for 50 Mc. Mobile

Noting the reference in "A.R." May issue, to the possible use of an a.m. net on 53 Mc., the following information is given of previous conversions of these commercial units which will allow a quick conversion to be made with little brain teasing. The diagrams will allow you to quickly identify the components which it will be necessary to alter.

and centre tapped. The aerial link should be replaced by a three-turn link the same diameter and one-third meshed in p.a. coil.

The final should be resonated and the link adjusted for maximum output—approximately 2½ watts. An 8.85 or 13.275 Mc. crystal may be used in the transmitter for 50.31 Mc. operating frequency. Do not forget to check that

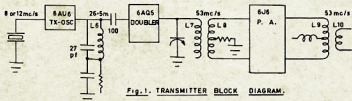


Fig. 1. TRANSMITTER BLOCK DIAGRAM.

### THE TRANSMITTER

The slug tuned coil L6, when paralleled with a 27 pF condenser, will resonate nicely at 26.5 Mc. Remove the 5 pF mica condenser if there is already one in the circuit and save it for future use. Coil L7 should be removed from the Philips trimmer and replaced with a coil of same diameter and turns as L8. This coil resonates at 50 Mc. Finally replace the 6J6 plate coil (L9) with one wound of 12 gauge tinned copper wire, 11/16" internal diameter

the 6J6 is neutralised and that the transmitter is crystal controlled. Normally the neutralisation will already be set and will not need adjustment.

### THE RECEIVER

The receiver is double converted, the fundamental of the crystal is used to control the conversion from the first to second i.f. Originally the eighth harmonic of the crystal was used to achieve the first conversion from the channel frequency to the first i.f.; in

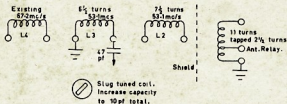


Fig. 2. RECEIVER COIL ALTERATION DATA.

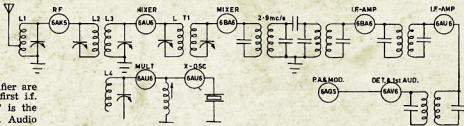


Fig. 3. BLOCK DIAGRAM OF RECEIVER.

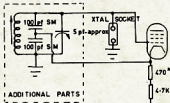


our case we use the sixth harmonic. This is achieved as follows:-

Crystal frequency, 11.2 Mc.; sixth harmonic, 67.2 Mc.; receiver frequency, 53.1 Mc.; difference frequency, 14.1 Mc. As the second i.f. of the receiver is 2.9 Mc., the first i.f. equals 2.9 Mc. plus crystal frequency, equals 14.1 Mc., which is the difference frequency achieved in the first conversion, Q.E.D.

To commence to convert the receiver, tune T1 primary and secondary to 14.1 Mc. with the 11.2 Mc. crystal in place. L5 should have a total of 10 pF. placed across it and resonated using a g.d.o. to 33.6 Mc. L4 should resonate to 67.2 Mc. with no change in circuit. L1 will require re-winding to 11 turns, tapped 2½ turns from the earth end, and is to resonate at 53.1 Mc. L3 should be

re-wound with 6½ turns and also resonated at 53.1 Mc. with the 47 pF. coupling capacitor attached to the top end of the coil. Finally, re-wind L2 with 7½ turns and resonate to 53.1 Mc. At this stage, if the unit was in working order before starting, a signal at 53.1 Mc. introduced at the aerial terminal, will allow the coils to be peaked, the sensitivity should be better than 2 µV. for 50 mW. output.



COIL: 20 turns 22 SWG Enam ½" Diam. Close wound ½" long.

Fig. 4. MODIFICATION FOR TUNEABLE RECEIVER

You will notice that all the trimmers in the r.f. section resonate the circuit with very little capacity. This has been done purposely to keep the circuits reasonably wide-band. If you wish to make your mobile tunable over the range of 53.0-53.2 Mc., put aside for net purposes, this may be easily achieved by the following method. The crystal is removed and replaced by a variable tuned circuit which tunes 11.175 to 11.225 Mc. This will give a receiver frequency range of 52.975 to 53.225 Mc.

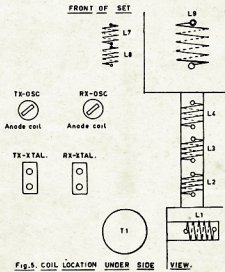


Fig. 5. COIL LOCATION UNDER SIDE VIEW.

Fig. 4 shows the circuit used. The variable capacitor and inductance will require juggling so that it covers the specified frequency (11.175 to 11.225 Mc.). The writer will be pleased to answer any queries enclosing a s.a.e.

—K. Woodward, VK2ZAU.

## DO YOU KNOW YOUR "ISTORS"?

The term "transistor" and of course "resistor" are now appearing in electronic terminology, particularly in the U.S.A.

### (a) CHRONISTOR

A sub-miniature electro-chemical elapsed time indicator. The indicator is a miniature electroplating bath, the size of a glass cartridge fuse. When a d.c. current of about 1 mA. drawn from the equipment being timed, passes through the unit, metal ions are deposited on the cathode which then changes in length with time. A time scale directly calibrated in hours is included.

### (b) FERRISTOR

A miniature (9/16 inch cube) two windings, ferrite cored reactor which may be connected as an oscillator, free-running multi-vibrator, an amplifier, time base, or ring counter. They are immune to damage from shock, vibration and accidental overload and are unaffected by humidity or temperature. They are designed to replace valves in high speed magnetic amplifier applications and in counting circuits.

### (c) MAGNISTOR

A small saturable reactor for the control of pulses and sine waves from 100 Kc. to 30 Mc. at power levels under 100 watts. It has applications as a gate, switch, counter, register and amplifier.

### (d) PERSISTOR

A miniature bi-metallic printed circuit loop operating at temperatures near absolute zero; its operation being based on the superconductivity characteristics of some metals at low temperatures. It has switching and storage applications in computers.

### (e) RESISTOR

A circuit component which opposes the flow of current.

### (f) SPACISTOR

A four-terminal transistor (base, collector, injector and modulator) utilising a reversed bias "p-n" junction to create a space charge for a very short period of time. It has an input frequency limit of about 10,000 Mc. and an output impedance of about 30 megohms.

### (g) STABISTOR

A silicon diode which maintains a constant voltage drop of 0.5 volt in the forward direction.

### (h) SURGISTOR

A miniature resistor and relay for insertion in the B plus circuit to limit current until the valve heaters and/or cathode are warmed sufficiently to accept full voltage without damage.

### (j) THERMISTOR

A temperature-sensitive resistor with a high negative temperature co-efficient used in temperature compensation, time delay, power measurement and switching applications.

### (k) THYRISTOR

A high-current, high-speed (0.00000002 sec.) switching transistor which can also be used as a high frequency amplifier.

### (l) TRANSISTOR

A crystal type amplifying device made of a semi-conducting material such as germanium or silicon operating on the principle of electron flow in a solid.

### (m) TWISTOR

A memory system developed by Bell Telephone Laboratories based on the fact that the magnetisation direction of wire made of magnetic material changes from lengthwise to helical if the wires are twisted, thus allowing memory matrices to be made without magnetic cores.

### (n) VARISTOR

A network of four carefully matched (within 1 mA. at plus or minus 1 volt) diodes for use in bridge circuits or as a balanced modulator for carrier suppression.

—"R.A. Sigs. Journal."

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VICTOR J. KITNEY,\* VK6VK

With the advent of transistors and some ideas suggested by my associates at work, I decided to take advantage of transistors for my next receiver.

The circuit follows the same general arrangements as the superceded valve job that I was using, i.e. double conversion, half-lattice xtal filters in the second i.f., and it is constructed for s.s.b. use only.

Throughout the unit common emitter configuration has been used. The r.f., mixer and oscillator stages are built around OC171s and mounted on a small piece of matrix board 5" long by 7 holes wide. The d.c. supply for this board is regulated to —4 volts, using an OAZ203 zener diode, through a divider network.

The r.f. board is mounted on stand-off pillars under the chassis.

The i.f. and audio sections are assembled on matrix board, 12" long by 9 holes wide, and mounted on stand-off pillars on top of the chassis. The 455 Kc. i.f. section is supplied from —6 volts rail through a dropping resistor from the —9 volts supply. The audio section is operated directly from the —9 volts.

The first i.f. is 2 Mc. In order to obtain satisfactory i.f. gain control without introducing distortion, as was found to occur when varying the base bias, the idea of a carbon pot. across the low impedance link, to the base of the second mixer, was conceived. This allows the r.f. stages to function at full gain at all times. The 2 Mc. i.f. transformer was scramble wound and a link wound against the secondary winding.

The second mixer is a copy of the first and emitter injection is obtained from a xtal oscillator. Considerable time was spent in trying to get the xtal oscillator to work, and it was later discovered that the original xtal tried had very low activity. The present xtal oscillated readily and no feed back condensers were required.

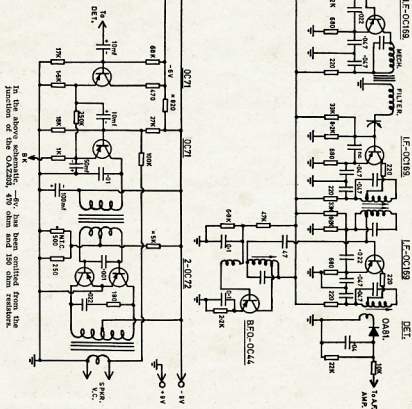
The second i.f. is 455 Kc., and use is made of a Collins mechanical filter to take care of selectivity. Here the circuit follows conventional lines, using double tuned transformers (Philips CZ.320.483). The gain of the 455 Kc. section is quite high with the particular filter I have.

The collector current is fed through the input winding of the mechanical filter. As this is only about 1 mA., it is not considered detrimental to the filter. Note that the output of the filter is series tuned as it is working into a very low impedance at the base of the OC169. The neutralising condenser  $C_n$  is determined experimentally to suit the circuit.

The circuit of the b.f.o. is conventional, and operates all the time. The b.f.o. signal is amplified by feeding it into the base of the last i.f. amplifier before the detector. This has worked out satisfactorily, but some pulling of b.f.o. frequency is noticed when aligning the i.f.s. at this point. (I have since obtained a xtal for the b.f.o. which suits the mechanical filter.)

The diode functions quite satisfactorily as a product detector with arrangements as above. There is a fairly large by-pass condenser on the diode load, but this, together with the 10K resistor, helps to form a decoupling network and pre-

(Continued on Page 11)



\* 3 Sampson Road, Kalamunda, W.A.

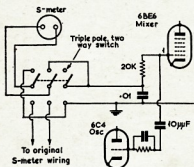
# Determining Mixer Current\*

## FOR BETTER RECEIVER PERFORMANCE

S. E. JANES, G2FWA

VERY few of us can be sure that our receiver mixer stage is functioning for optimum performance. It is customary to inject the oscillator output into the mixer valve by one of several methods, after which one hopes for the best—but there is really no standard of comparison. If the oscillator output is low the result may be poor front-end performance. On the other hand, excessive injection will give a high noise-level and possible unexplained "birdies". In addition, it may also be responsible for t.v.i. caused by the receiver tuning.

The construction of a 21 Mc. bandspread coil for an HRO receiver first raised the problem of knowing what the oscillator output voltage should be and its relation to the positioning of the cathode tap. Then the up-dating of this HRO by means of modern valves brought to light an interesting table which is repeated in each A.R.R.L. Radio Amateur's Handbook; in the 1961 edition, for example, it is on page 95. This shows the recommended operating voltages for several modern mixer valves, with a column giving the various grid currents for optimum performance. This latter point appears to be generally overlooked not only in receiver construction but also in other applications, such as the mixer in s.s.b. transmitters.



Mention should be made concerning the method of bias for the mixer valve. If this is obtained solely by means of a grid resistor, then the injection voltage is not so critical providing it is adequate. It should be made optimum, however, if maximum signal-to-noise ratio is desired. If cathode bias is used the injection voltage is somewhat more critical, while fixed bias on the injection grid makes the whole arrangement quite critical.

The original mixer in the HRO required 45 volts for screen grid injection, but only 10 volts is necessary for the 6BE6 used in the re-valved HRO. This requirement is satisfied by an injector grid current of 0.5 mA. through a 20K resistor. The separate oscillator

valve in this case is a 6C4, in the circuit which has become the accepted standard for modernising the old HRO types.

It was found that the range of HRO coils showed a grid current variation in excess of 5:1. For example, the 14 Mc. bandspread coil produced grid current off the scale of a 1 mA. meter! This was reduced to the correct 0.5 mA. by lowering the cathode tap by one turn in the direction of the grounded end. With some coils, it may be found difficult to re-set the oscillator cathode tap, but any effort will be well rewarded. In particular, the construction of a good 21 Mc. bandspread coil will be facilitated by this check for finding the correct position for the tap.

If it is desired to have a permanent means of checking the mixer operation use may be made of any existing S meter. In the case of an HRO, this is a 1 mA. movement and it seems logical to take advantage of its presence. The diagram shows a method of switching the meter to perform the two functions. This refinement becomes a simple and direct method of reading the mixer grid current, and it is very satisfying to have this check on receiver performance. It must be remembered, however, that d.c. continuity to ground must be maintained for the injector grid of the 6BE6 and the switching as shown satisfies this condition. It is not necessary to close the S meter leads when measuring grid current, as the original switching for this function simply open-circuits the leads to the S meter when not required.

## Further Notes on Modifying AR7 for S.s.b.

The author of this article (appeared last issue "A.R.") has sent along the following three points:—

On page 9 (bottom of column 1) maximum dip should of course be minimum dip.

The secondary of IFT1 is balanced to ground as in the original circuit of the AR7. (The condensers are inside the can.)

VK4DA has suggested that by reversing the position of each two-gang condenser, that is by putting the left hand one on the right hand side and vice versa, the tuning control will then cover 0 to 500 as the frequency is increased.

## YL/XYL AMATEUR CALL SIGNS

How many licensed female-operated Amateur Stations are there in Australia at present—10, 20, 30, 40 or 50?

According to information taken from the current Call Book and associated P.M.G. amendment lists the total is 18, made up of VK1 1, VK2 6, VK3 6, VK4 1, VK5 2, VK7 1, VK9 1. Out of this total at least a dozen have been heard operating on various bands in the past few months.

—BERS195/1,3042.

## A Sweep Generator for Aligning High Frequency Crystal Filters

It is all pretty straight-forward, except for a couple of small traps—the varicap has an inverse cube law and is rather non linear (!), but if you make sure that when you are using it for measurements that the diode bias is large compared with the sweep voltage, the linearity is all that is to be desired.

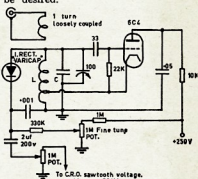


Fig.1. SWEEP GENERATOR

Operate with the highest bias for best results, and only use the bias control for fine tuning.

Use a low frequency sweep (10-15 c.p.s.), and with the poor high frequency response of the probe (with my c.r.o.) it is quite practicable to use an external calibrated oscillator as a "marker", as shown in Fig. 3.

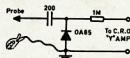


Fig.2. THE PROBE.

The oscillator can be very loosely coupled to the circuit under test. Loose coupling of the sweep oscillator to the filter (etc.) is most desirable to prevent "pulling" effects, and a kind of varimeter link would be a great advantage.

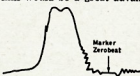


Fig.3. TYPICAL RESPONSE CURVE.

None of the values I have shown are critical, having been selected by the hmm-let-me-see-this-ought-to-do method.

The only thing to add is that at low sweep frequencies a d.c. oscilloscope is an advantage, as with an a.c. coupled scope, with the display nearly filling the screen, some distortion is occasioned by the a.c. coupling finding a "mean level".

The sweep range of the unit described at around 6 Mc. is from 400 Kc. to 500 c.p.s.

—I. Macmillan, VK9CS.

# SIDEBAND TOPICS—BUD POUNSETT,\* VK2AQJ

## DO YOU OFFEND?

No, no, this is not a toothpaste ad, but it is just as important. The question is, do you offend the other Amateurs who are using the same band, or adjacent commercial users by transmitting spurious signals?

It has been noted recently that several Amateurs in the capital cities have poor signals on the 20 metre band. The major complaint being interference to fellow Amateurs who live within a radius of up to five miles or so. This does not mean that country Amateurs do not transmit these illegal signals, very often there is no-one close enough to notice them. It also appears that the condition does not exist for any length of time on the 40 or 80 metre bands. Probably this is explained by the different propagation characteristics of these bands allowing these spurious signals to be heard over greater distances within Australia, resulting in general complaint from near and far.

If your transmitter radiates these totally unnecessary signals, you are the guilty one. Why should you inconvenience your fellow Amateurs? Why should you break the rules by spreading your signal over hundreds of kilocycles when it would be far more effective on the one single channel. You are also bringing sidebanders in general into disrepute and this is serious indeed.

In March 1963 "QST" is a very fine article written by "QST" technical editor, George Grammer, W1DF. If you have had any complaints directed at you, this article will greatly assist you in cleaning up your transmitter. We all like to feel that we are above reproach, we can make sure by following the suggestions in this article, "Checking Signal Quality With the Receiver". I found that an old steam iron with a broken thermostat and a

rather rusted up but serviceable element made an excellent dummy load if fed via an antenna coupler.

Howard L. Morrison, W7ESM, wrote an interesting article in "EQ" March 1963, entitled "Pentagrid Mixers for S.s.b. Exciters". This article has plenty of meat in it and contains some thought provoking ideas. [Our Editor may find space for it in a later issue.] Briefly it describes the advantages to be had by using such tubes as the 6SA7, 6SB7Y, 6BE6, 6BA7.

These tubes were especially made to function as mixers, but Mr. Morrison points out that when these tubes are used in receivers grid one is allowed to draw grid current. The grid-cathode circuit forms a diode circuit which is an efficient harmonic generator. When used in an s.s.b. exciter, this can lead to all manner of signals appearing in the output circuit which unless it has sufficient selectivity will pass these signals along toward the antenna. It is therefore recommended that these tubes not be operated under grid current conditions in the heterodyning oscillator input grid (normally grid No. 1) circuit. The article sets out some sample combinations of signals and harmonics that can create spurious signals quite close to the operating frequency.

Another source of spurious radiations is the choice of intermediate frequencies within the transmitter. Great care must be exercised in choosing these frequencies and their associated oscillator

frequencies, if a departure from a tried and proven design is contemplated.

Yet another source is the transmitter constructed with little or no thought given to shielding one stage from another. You cannot over do this shielding, too much is far safer than too little. You must restrict all the various signals in your sideband transmitter to those paths that the design intends, let them wander from the "straight and narrow" and you are in trouble.

If you find that your transmitter has output on other than the proper channel, do something about it. You will find plenty of people ready to help you, especially those you are keeping off the air. After all, it is your technical reputation that is at stake.

## 160 METRES—U.S.A.

Here is a brighter note. The F.C.C. in Washington, D.C., issued an order on February 22, making several changes in 160 metre frequencies within the U.S.A. and prohibiting the use of single sideband in this band. The order was scheduled to come into effect on April 15. Loud protests were forthcoming from all over the country and after an investigation into the interference aspect to the Loran service, the F.C.C. amended the order on April 10 to remove the ban on s.s.b. operation in this band. Has anyone heard any DX on s.s.b. on 160?

## Spurious Responses in FT243 Crystals

While in the process of aligning a high frequency crystal filter (5.78 Mc.) with the aid of a sweep generator and a c.r.o., mounting frustration drove me to check the response of individual crystals, and found that out of eleven crystals, nine had spurious responses on the high frequency side of the main response, having amplitudes nearly as high as the main response.

Having spoken a terse verse or two, I stripped the crystal holders of both good and bad crystals to see if there was any basic difference, and found a wide variation in holders and mounting plates.



Fig. 1. CRYSTAL HOLDER PLATES.

I found, that apart from differences in pressure spring arrangements, that there was one square crystal, mounted between flat plates, on corner lands (good crystal); one rectangular crystal, mounted on corner lands, but with a

circular cut away in the plates, and a button in the middle (see drawing); this was also free of spurious responses. There were eight rectangular crystals, mounted on corner lands between flat plates (all very bad); and one rectangular crystal with a flat plate with corner lands on one side, and a circular cut-away plate on the other (moderately bad).

An idea springing to mind, I changed one of the bad crystals from a type "B" (see Fig. 1) to a type "C" holder and was rewarded with a clean response. Then I took a good crystal from a type "C" holder, and put it into a type "B" holder, and presto! Spurious responses from here to breakfast!

So, I selected the frequency plates I wanted, and put them in type "C" holders, and no more spurious troubles. So if you are building a high frequency crystal filter, and the pop-ups are driving you mad—have a look at the crystal holders!

As a final note, I might mention that the crystals involved were made by six different manufacturers, so there does not seem to be much doubt that the choice of crystal holding plate holds the key to spurious responses in rectangular plate FT243 crystals.

—I. Macmillan, VK3CS.

## S.S.B. CRYSTALS

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Mounted in HC6U Holders  
Suitable for 455 Kc. I.F's.

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Full details on request.

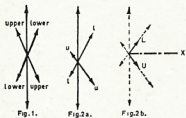
## BRIGHT STAR RADIO

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## ANOTHER METHOD OF GENERATING S.S.B.

Basically this method is a phasing system which achieves the necessary audio phase shift by means of a stratagem carried out at a radio frequency.

Consider a normal a.m. signal in antiphase to an identical signal (Fig. 1). Obviously both carrier and sideband frequencies will cancel out. Consider now what will happen if the upper sideband of one signal and the lower sideband of the other signal are attenuated (Fig. 2a). The resultant is shown in Fig. 2b.



A little thought will show that if the resultant sidebands were demodulated with an inserted carrier  $X$ , the resultant audio would be in quadrature (at  $90^\circ$ ) to the original audio. The question is, is it possible to achieve this result?

Suppose an a.m. signal is generated at 5 Mc. and is fed through an off-tuned

resonant circuit. One set of sidebands will be attenuated more than the other. Forget for the moment the progressive phase shift across the signal spectrum so produced.

Now, suppose we take our original 5 Mc. unmodulated signal, multiply it by, say, 3 to 15 Mc. and feed it to one mixer, and by 5 to 25 Mc., and feed it to another mixer and combine the outputs of the two mixers at 15 Mc., with the lopsided a.m. as a common input (Fig. 3).

As one of the "local oscillators" is above the output frequency and one below, the resultant 15 Mc. signals have the sidebands exchanged so that, provided that we arrange the 15 Mc. "carriers" (produced from the 5 Mc. input) to be in antiphase, the condition shown in Figs. 2a and 2b will prevail.

As both mixers are fed with the same 5 Mc. signal, and the "spectrum" phase shift produced by the off-tune circuit is assumed to be symmetrical about the carrier, the effect of this will cancel.

All that remains is to mix the resultant d.s.b. output with d.s.b. produced at 15 Mc. ( $5 \text{ Mc.} \times 3$ ) with the original audio, ensuring that the r.f. phase shift is  $90^\circ$  between the two, adjust the signal levels for cancellation, and we have s.s.b., by (basically) the phasing method.

I have deliberately avoided mention of practical problems in this discussion as this (original I believe) scheme is at present on a purely theoretical level and I feel is worthy of provoking some interesting discussion in Technical Correspondence.

—I. Macmillan, VK3CS.

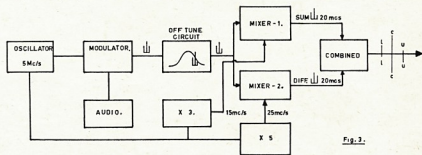


Fig. 3.



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# Book Review

## MORE ABOUT LOUDSPEAKERS

First Edition, by G. A. Briggs

Mr. Briggs seems to be as famous for his witty publications as he is for his excellent loudspeakers. To quote Mr. Briggs from his introduction, "This is not a text book." Be that as it may, he has included all the information needed to understand the operation, housing of, and listening to of loudspeakers.

A chapter on the design of cross-over networks is most complete in its coverage, as is the chapter on cabinet design. We all know of course that sound reproduction is a controversial subject, so Mr. Briggs has included answers to a questionnaire by such famous names as James Moir, Cecil Watts, and Percy Wilson. This makes very interesting reading.

All in all, a book warmly recommended to those who like to explore the paths of high fidelity sound reproduction.

Our copy from McGill's Newsagency, 183 Elizabeth St., Melbourne. Price, 15/6 posted.

## "CQ" AMATEUR RADIO ANTHOLOGY II.

Edited by Art Seidman, K2BUS

Undoubtedly there are scores of Amateurs who possess a copy of "CQ" Anthology Volume 1, and who also refer to it at frequent intervals. This new edition covers the years 1952 to 1959 and consists, as did volume 1, of the best and most topical articles published in "CQ" magazine during that period.

The material is divided into eleven sections, as follows: Improving equipment, v.h.f., s.s.b., surplus, mobile, transmitters and receivers, theory, operating, test equipment, r.t.t.y. and history.

Here is a book with something for everyone. A book you will be constantly referring to.

Our copy from McGill's Newsagency, 183 Elizabeth Street, Melbourne. Price 35/6 plus postage.

## RADIO DATA REFERENCE BOOK

An R.S.G.B. Publication

When the now famous R.S.G.B. Handbook was released it was immediately apparent that this was going to be a best seller.

With the release of the Radio Data Reference Book, it would appear that R.S.G.B. have hit the jack pot once more. Here in one volume is all the miscellaneous information needed by the Amateur or Engineer.

A few of the subjects covered are: aerial design, balun design, coax cables, frequencies of FT241 crystals, db. calculations, filter design, inductance charts, maths. tables, pi network tank circuit design, and we could go on and fill the page with subjects alone.

This is a book you need to have on your shelf. Price 20/9 plus postage.

## UNDERSTANDING AMATEUR RADIO

By George Grammer, A.R.R.L.

When George Grammer adds his signature to a publication we can expect to see something special. "Understand-

ing Amateur Radio" is a new type of publication for A.R.R.L. It is designed for the beginner, but where many similar books leave him out on a limb, this one goes all the way. It is in fact a book that any Amateur, new or old, would find of great use. This applies particularly to the Australian Amateur as the transmitting equipment goes up to around the 150 watt mark.

Theory chapters are up to date and written in a most interesting manner. Construction includes h.f. and v.h.f. transmitters and converters.

Price of this book is 28/6, which seems excellent value for over 300 pages of concise information. It is published by the American Radio Relay League.

Our copy direct from A.R.R.L.

## THE WORLD RADIO T.V. HANDBOOK

1963, 17th Edition

From Denmark comes the 17th edition of this well known publication, and as usual it is packed with information for S.W.'s and Amateurs alike. Apart from a complete list of short, medium and long wave broadcasting stations, t.v. and f.m. stations, there is comprehensive information on such things as solar activity, aeriels, frequency allocations, short wave conditions, etc. This book is better than ever and definitely recommended.

Copies from The Technical Book and Magazine Co., 295 Swanston St., Melbourne, and direct from the publishers, O. Lund Johansen Ltd. Local price is 31/- plus postage.



Peter Drew, WIA-L6021, an ardent Short Wave Listener.

## EX-VR4CV

Alan Vegas, who was very active (mostly on c.w.) for quite a while as VR4CV, is at present living in Victoria. He gave many VKs their first VR4 contact and (he hopes) their first VR4 QSL card. Alan's future movements are obscure at present. He may, or may not, remain in Australia. His equipment is at present in the care of VR4CU. Any reader wishing to contact Alan can do so via the undersigned.

—Eric Trebilcock, VK3 Inwards QSL Manager

## A Transistorised S.s.b. Rcvr.

(Continued from Page 7)

vents r.f. from the b.f.o. going into the base of the first audio stage.

The audio stage is very conventional also and no special ideas have been considered here. There is a reasonable amount of negative feedback in the circuit, which helps to reduce distortion. The first audio stage is an emitter follower, and the 250K resistor would normally be an audio volume control, but is wired flat-out in this case.

Power supply for this unit has been taken from the circuit as described in "Amateur Radio" for November 1962. This supplies the —9 volts very conveniently, and is a worthwhile asset where transistors are used.

Break-in operation is taken care of by opening the emitter of the first r.f. and second audio stages as shown in the circuit. These normally return to ground in the receiving position, and are lifted on transmit.

## RESULTS

The unit was found to be extremely stable, have good sensitivity, low noise figure, and no cross modulation has been experienced. Though sections may appear to be unconventional, the overall performance is highly satisfactory. A measured sensitivity (at 14.3 Mc.) of better than 18 db. signal to noise ratio for a signal of 1  $\mu$ V. across 52 ohms was obtained (compare this with the 7551). The only protection the r.f. stage has when transmitting is the aerial change-over relay.

## CONCLUSIONS

It has been refreshing to take on a project such as this and finish up with such encouraging results. I am now considering the possibility of building the receiver into a transceiver-exciter coming out at 5.1 Mc. This will fit in with the phasing exciter in use at present. I would like to thank the boys at work who did a lot of urging to keep the project moving, otherwise it might still have been uncompleted.

## TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R." in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.

## STATISTICS

In a survey conducted recently, the I.A.R.U. obtained the following interesting facts and figures relating to:

**Number of Amateur Stations**  
U.S.A. 244,000, Japan 22,000, Great Britain 10,000, Brazil and Canada 9,000, Germany 8,000, Argentina 7,000, Australia 4,000.

**Percentage of Amateurs, Society Members**  
Germany 75%, Great Britain 70%, New Zealand 60%, South Africa 55%, Australia 53%.

**Maximum Power Input**  
1,600 watts—By 17 countries, including U.S.A., Brazil and Argentina.  
800 watts—1 country.  
750 watts—2 countries, including Canada.  
500 watts—4 countries, including Japan.  
300 watts—4 countries.  
250 watts—3 countries, including Germany.  
200 watts—3 countries.  
150 watts—10 countries, including Great Britain and Australia.

—BERS195/L3042.

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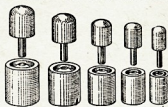


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3/4 inch	27/11	2 inch	46/6
7/8 inch	36/10	2-3/32 inch	72/3
1 inch	36/7	2-1/2 inch	85/0
1-1/8 inch	36/7	11/16 in. Square	55/4
1-1/4 inch	36/7	1 inch Square	55/4
1-3/8 inch	40/6	21/32 x 13/16 in. Rectangular	76/2

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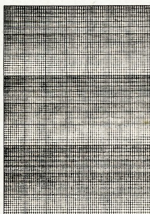
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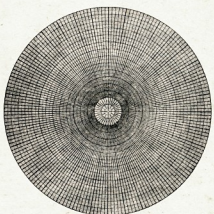
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# JAMBOREE-ON-THE-AIR, 19th and 20th October

Federal Council has, in recent issues, urged Amateurs to encourage young people to take up the hobby of Amateur Radio in order to assist the nation in a technological and sociological way and to increase the Institute's membership.

The Boy Scout Jamboree-on-the-Air, is an activity worthy of the support of all Amateurs, and one which introduces a large number of young people of most impressionable age to a fascinating hobby.

Since it began in a small way in 1958, this annual international event has increased in popularity, until today, tens of thousands of Scouts in more than 76 countries are expected to be in the Sixth Jamboree, which is scheduled to begin on 19th October at 1000 hours E.A.S.T., and is to continue for 48 hours.

## WHO CAN TAKE PART?

All Amateurs with a past or present association with the Boy Scouts Association, or those with Scout visitors in their shack can participate. Shortwave listeners, too, can help by inviting Scouts to listen to Jamboree activity on their receivers.

## HOW YOU CAN HELP

Already many Scout Groups have begun to make their arrangements and while most will be visiting Amateurs, some Amateurs are setting up portable stations in Scout Halls and Camps. If you can help, offer your services to the local Scout Group—you will find them only too willing to accept! If you do not know any Scouts personally, or if you have difficulty in establishing contact, then get in touch with the co-ordinator for your area, whose name and call sign is given below.

## SOME SIMPLE RULES

In case this is the first time that you are taking part, we will repeat a few simple rules governing the event.

1. The Jamboree is not a contest and there are no prizes given. A participation certificate, however, is sent to Scout Groups and Amateurs who send a report to the Branch Organiser.
2. The object is to work other "Scout" stations to give the boys an opportunity to talk to their counterparts and to swap experiences, etc.
3. You may enter the event by calling "CQ-Jamboree" or by answering a station you hear so calling.
4. Any authorised frequency or mode may be used. (Last year many Scouts used 6 and 2 mX which shows that in order to enjoy Jamboree-on-the-Air it is not necessary to work DX.)

## BEFORE THE JAMBOREE

If Scouts are to get the most from Jamboree-on-the-Air, some preliminary training should be arranged. Training with a definite object adds realism to the event, and makes it much more interesting to the boy. Here are some suggestions:

Explain Radio Wave propagation to enable them to understand why they can hear a station a thousand miles away, but not one fifty miles distant.

Practice microphone technique using a tape recorder. Many Scouts are rendered speechless when confronted with a microphone for the first time.

Arrange for the Scouts to visit your shack a week or so before the Jamboree, to enable them to become familiar with your station's operation.

Offer your services to instruct the Scouts, say for an hour every two weeks, in the fundamentals of Electricity and Radio.

## DURING THE JAMBOREE

Having made a Jamboree contact, give the details of the Scout Group you represent (or better still, let the Scouts in your shack give them).

During the event, ask the Scouts to take turns in recording the contacts in your log. (Be sure you check it.)

Don't introduce more than two or three Scouts at a time. The others can talk to the next contact.

Make sure that they know what to say. Each Scout should introduce himself, and then go on to say something of his town, his troop, patrol name, hobbies, weather, family, etc. Of course, every Scout should not say the same thing.

Help the Scouts to prepare some QSL cards, nothing elaborate, perhaps an original sketch which could be duplicated, or a postcard with a Group nametape, or badge attached, would do admirably.

Finally, send a report on your activities to your State Branch organiser, as soon after the event as you can.

## BRANCH ORGANISERS

Information concerning the Sixth Jamboree-on-the-Air (19th and 20th October, 1963) can be obtained from the following Branch Organisers:—

### New South Wales:

Brian Anderson (VK4AND),  
14 Stuart Street, Longundville.

### Victoria:

John Woodburn (VK3AGD),  
"Wandobah," Dunkeld.

### Queensland:

Noel Lynch (VK4OS),  
Boy Scouts Association,  
Queensland Branch,  
132 Wickham Street, Valley.

### South Australia:

Roland Guy,  
4 Nanteha Terrace, Unley Park.

### Western Australia:

O. J. McCullough,  
Boy Scouts Association,  
West Australian Branch,  
842A Hay Street, Perth.

### Tasmania:

D. J. Finlayson,  
Boy Scouts Association,  
Tasmanian Branch,  
107 Murray Street, Hobart.

### Papua-New Guinea:

John Gwilliam,  
P.O. Box 44,  
Konedobu, via Port Moresby, N.G.

## FURTHER HELP

Further information and assistance can be obtained from the following Victorian Amateurs who have agreed to assist with co-ordination:—

VK3AHT, Bill Magnusson (State Co-ordinator); phone 314-6760 after 4.30 p.m.).

VK3ARL, Lin Brown; VK3WC, Ewan Cameron; VK3ALP, Jack Cations; VK3ABT, Jim Barber; VK3AUL, Arthur Lock; VK3ZK, Jim Stevens; VK3AKW, Bill Kinsella; VK3KTH, Gordon Morrison; VK3AGD, John Woodburn (Branch Organiser).

Some of these stations will be on the air each Thursday evening on 80 metres from 2030 hours for the purpose of helping Amateurs who require assistance or information.

In addition, the State Co-ordinator for Victoria (Bill Magnusson) and the Branch Public Relations Officer for the Jamboree-on the Air (Les Marmo) will be on 80 metres on Tuesday evenings from 2030 hours and on 40 metres on Saturday afternoons from 1500 hours from VK3AEF (the station of the 8th Footscray Boy Scouts Amateur Radio Club) to give additional information and to receive publicity reports.

—L. D. Marmo, Public Relations Officer,  
Jamboree-on-the-Air (Victoria).



## Technical Correspondence

### OVERTONE FREQUENCY OF CRYSTALS

Editor "A.R.," Dear Sir,

In the June issue of "Amateur Radio," A. S. Mather (VK2JZ) made reference in his article on "Crystal Locked Converters" (page 2) to crystals operating on their 2nd overtone, although he stated that the overtone frequency was approx. three times the fundamental. No reason or authority was given for this statement and I know of no other article, paper, or text book that could support this contention. Such classic texts as "Quartz Crystals for Electrical Circuits" by R. A. Heising and "Quartz Vibrators" by P. Vigoreux and C. F. Booth refer to 3rd, 5th, 7th, etc., overtone operation, i.e. only odd order overtones exist for AT or BT cut crystal plates oscillating in the thickness shear mode. Only AT or BT cut plates can be used in an FT243 holder and therefore I believe the statement in the article to be incorrect.

It is of interest to note that second overtone operation is encountered with some cuts of crystal, i.e. the overtone frequency is approx. twice that of the fundamental. The popular FT243 series of crystals in the range 300-500 Kc employ CT cut plates that oscillate in a face shear mode and are capable of producing even order overtones, i.e. 2nd, 4th, 6th, etc. DT cut plates, commonly used at 100 Kc., are another type that can produce even-order overtones. Such operation, however, would not be encountered very often, if at all, in Amateur Radio work.

—David Rankin, VK3QV.



This month I would like to give you a short preview on a publication which all listeners should have. "World Radio Television Handbook," which is published each year, contains a wealth of information on the radio stations of the world, as well as a complete list of stations, addresses and a host of other information. This booklet is the only one that has complete and exact information for broadcasting and television. The 1963 edition has been completely revised and brought up to date. It contains a quantity of practical information about all radio and television stations of the world. Whether you only listen on the Ham bands or not, you will find this publication a worthwhile edition to your library.

## VICTORIA

Records, records, yes that's right, we had a record attendance of 30 members at our July meeting, which is most encouraging. Much discussion took place on several matters during the evening. We have been considering the possibility of publishing a monthly or bi-monthly newsletter. Of course this depends on whether enough members are interested in this venture. Our Council represents the club, and at the Council meeting to put our proposals to them. But remember, even if enough members indicate they are interested in this project, we need your support in supplying news.

Our general president, Maurie, gave a short talk on a.s.b. reception, which was of much interest to all. Our constructions, which are held on the second Friday of each month, continue to be of much interest to members. We are looking forward to having our guests at a future meeting the boys of the 8th Footscray Boy Scouts.

Our president (Maurie) will be acting as the C.E. Officer for the VK3 S.W.I. Group. Maurie will hand out the cards at the meetings, but if unable to attend or you live in the country, cards will only be sent to you providing you supply Maurie's name on the card in an envelope. I suggest that when sending down any envelopes, that you send down a slightly larger one than is required for the average letter. But do not send reports to Maurie if you wish to send your cards via the Bureau.

Talking of QSLs reminds me that recently Eric L3042 received a card for his report. A card was sent out on Aug. 30. Your scribe received had the pleasure of a visit from Michael and his YL Denice. And it looks as though people will have plenty of competition from Denice, as she is a very keen DXer on the bands.

Greg L3138 reports having received the following QSLs this month: G1ARY, PU5CQ, YJ-1JB, VK9LA and VKQM. At the moment Greg is considering erecting a two element beam on 90 Mc. and has been very busy constructing a tunable i.f. for his modified "R. & H." 50 Mc. converter. Ron L3076 has at last got his 144 Mc. converter going to his satisfaction. Ron has a very nice set-up at Brighton. On 144 Mc. his r.f. catcher is an 11 element Yagi and on 50 Mc. he has a 2 element QRP. Ron L3076 has been very busy being involved in a motor accident earlier this year, and apart from the damage caused to his car, his tx was wrecked.

## NEW SOUTH WALES

There is an upward trend in the VK3 Group. Increased attendances at the monthly meetings have been most noticeable of late, but they would like to see even greater numbers come along. With increased numbers at the monthly meetings they can organise better for future events such as lectures, etc. You also have the opportunity of meeting your fellow member and discussing s.w.i. problems with him.

Members living in the country and those who cannot attend meetings are invited to send their suggestions or general business to the Hon. Sec. of the S.W.I. Group, Tom Harding, C/o. Wireless Institute Centre 14, Crown St. Growse Nest All items for publication in "Amateur Radio" should be sent to Chas. Abernethy, 30 Urunga Pde., Miranda.

Has been received a number of QSLs of late, such as DJ2MG, VS8EW, VS8FA, HK3RQ, HK1JF, HP1JC, CP5EL and KG8AOK. And here is a prize scoop, a QSL from Project Oscar. Chas. has been awarded for his con-

sistent loggings of Project Oscar which, you might recall, was the Amateur Radio satellite which had a tx on 145 Mc. and sent out info on c.w.

Now we would like to know if Chas. is the one lucky person in the S.W.I. Groups that has obtained this rare QSL card?

## WESTERN AUSTRALIA

Our stalwart from the Sandpiper land, Peter L621, has once again been in the thick of things. For the month he received the following QSLs: W3ECR, W2CWC, K4CH, WH7WQ, K7LJA, L3SBH, SP5AMZ, OE2JRL, HL3HK, ZS8FA, JA3RBJ, UD8RE, GR8AA, VR3O, SL3CX, VR3L/VR1, KG6NAA, UO5OA. Well that's not a bad list for the month old boy. After some months of contemplating,

Softly, softly this month in regard to the region nearly west of me. That Adelaide expert in multiplication (the bloke who gave me a nice P.S. last month) gave out the inside dope in his notes—I hope you're right, PS. Anyway, nothing but best wishes to any Divisional Council that backs Youth Radio Clubs, last in or not. It hasn't happened yet, but here's hoping.

**Hint for Club Leaders:** This is a don't-let-it-happen-to-you story. Here at Lynnhem High, there was a small fire in the roof of the school burning out about an 8 x 4 ft. piece of ceiling in a corridor near our radio room. It was caused by a electrical fault around a ceiling light fixture and later this was officially confirmed. However, there was a strong move early in the proceedings to tell the boys that the Radio Club because our station VK1LS was near (20 feet away!) and we had put an antenna up nearby.

There are plenty of older people around who are only too ready to blame young people for anything that happens. In our case, we had right and a Headmaster on our side, but the moral for club leaders is plain. Follow regulations strictly in regard to electrical power outlets and wiring—in general, be like Caesar's wife or some nasty type will pounce on you with great relish. Especially take all possible precautions for the safety of the boys in your care.

Doug Williamson, who gives his time to looking after Elementary Certificates in VK2, gladdened this correspondent's heart by writing me some news. He was invited to give: 1 honour (J. Dawson 98), 1 credit, and 1 pass from Downlands College (Toowoomba, Qld.); 1 credit from Sefton High; 2 credits and 1 pass from Patricia Brothers Inter. High at Liverpool; and 5 passes from Lynnhem High, Booragui, Sefton and Inverell High have Certificates waiting on practical tests. Doug himself (at Bass Hill) has some K class boys who have built an 807 amplifier and a 2-valve s.w. set, but time is the main problem as with the rest of us. Doug began by just offering

Peter has at last decided to build the pre-amp. This was described in the August '62 issue of "R. & H." However he doubts if it will be ready for the R.D. Contest.

## DX LADDER

	Countries	Zns.	S.s.b.	W
	Conf.	HRd.	Conf.	HRd.
E. Treblecock	282	289	40	—
D. Grantley	113	259	38	20
A. Westcott	93	158	31	107
M. Hillard	79	230	28	159
M. Cox	72	229	29	150
P. Drew	66	199	27	29
A. Abernethy	52	199	27	29
I. Thomas	42	139	20	16
G. Earl	16	114	11	6
D. Coggin	10	92	7	3

## YOUTH RADIO CLUBS

to look after the boys, but has developed an interest in Amateur Radio. He hopes to get A.O.C.P. soon and then his AT5, TH1833, Class C Wavemeter, G.D.O. and C.R.O. will do service. I'm looking forward to a QSO, Doug.

Ralph Satchell (Homebus Boys' High), who looks after Inter. Certificates in VK2, also writes. He agrees with a suggestion that simplified sheets of information—one sheet on one simple job—should be prepared, a few by each of us concerned, on a planned basis. This would avoid duplication of effort. More of this later. Ralph has about 15 first and second year boys very interested.

Ken Matchett (VK3 Supervisor) sends me his excellent Newsletter No. 2. He suggests some reference books including "Radio for Boys" (Bradley the author, in the Junior Tech. Yourself series) and "Understanding Radio" by Welch and Eby (published by McGraw-Hill). Personally I strongly favour an excellent teaching book, "Elements of Radio" by Marcus and Marcus, which is well suited to medium standard boys and certainly not beneath those instructors not yet doing A.O.C.P. Ken has been invited by the Boy Scouts' Association to discuss the matter of Y.R.C. Certificates being used for Scout badges. Clubs listed in VK3 are Ringwood Tech., St. Anne's (Sale), 6th Footscray Boy Scout Group, Geelong C. Tech., Hoppers Hill, Collingwood Tech., Warrnambool Tech., Blackburn High, and Scotch College. I seem to remember also VK-ANL, C. E. Glen, C. Grammar and VK-ANL at Morwell High School.

How's your publicity going, you club leaders? Here in Canberra we had a few shots of our club station in a recent "Four Corners" programme on A.B.C. television. Then we had a half-page with photos in "Canberra Times." You are all news, you know—and the more publicity you get for the boys (make sure it's for the boys and not yourself, as a matter of proper public relations), the more help you are likely to get. And how about some news for me, too? 73, Ken IKM.

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 100% COBALT  
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 100% STEEL  
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 100% MAGNESIUM  
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 100% CADMIUM  
 100% BARIUM  
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 100% CALCIUM  
 100% SODIUM  
 100% POTASSIUM  
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 100% IODINE  
 100% OXYGEN  
 100% HYDROGEN  
 100% NITROGEN  
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 100% ARSENIC  
 100% ANTIMONY  
 100% BISMUTH  
 100% CADMIUM  
 100% ZINC  
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 100% BROMINE  
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## VHF NOTES

(Continued from Page 15)

reports were received on the new beacons, the July band and the JVA fox hunt.

**Beacons:** The 50 Mc. beacon is operating again with the F. Skerby field. The nominal rest frequency is 50.02780 Mc. and the key down frequency is 50.02780 Mc. It has been decided to make the final tube in the new 50 and 144 Mc. beacons a 82A in preference to the proposed 815. This would mean a power increase in the future by substituting a higher powered tube in the same socket. Provision will be provided to enable a.m. modulation if it is required.

**V.h.f. Field Day:** Twelve locations were manned by the Group for this Field Day and some locations were very popular, and a very enjoyable day was had by all. Six home stations were built but only 6ZCX sent in a log, claiming 606 pts. Of the Field Day logs received, 6ZDW and 6ZCI claimed 1865½ pts., but owing to a misunderstanding of the rules this score may be disallowed. Other scores were 6ZDI 1520, 6ZG 1400, 6ZMM 1275 pts. and 6ZAG 877 pts.

**July Fox Hunt:** Alyn 6ZDW, with the help of Peter 6ZDB, ran the fox hunt. It was a two-day hunt, and the winning frequency was 50 Kc. apart. Nine cars participated and a tie resulted, 6ZDW and his group were first at a site called 6ZAG, and the key was sent at site No. 1 and first at site No. 2. Supper was partaken at Alyn's QTH and thanks were expressed to his XYL, Betty.

**Annual General Meeting:** An election of officers and an amendment to the constitution were the major items of this meeting. The constitution amendment was voted on first and it affected the election. The alteration was required to enable the office of vice-president to be created and also to provide the machinery whereby a member of the Council may be empowered by other Council members to chair the meeting with full powers in the absence of the patron, president and vice-president. The officers elected were: Patron, Mr. Frank Dawson; president, Dennis 8AW; vice-president, Graham 6ZDB; council members, Don 6HK, Charles 6ZAG, and Walter 6ZAG. The 6ZDB 6ZDS; press corp., Graham 6ZDB; records sec., Charles 6LK.

**50 Mc.:** Peter 6ZDB is building a rig using push-pull 807s. He has a converter constructed with a 6X4 cl. yagi up about 50 ft., should be a power on this band soon. Ian 6CL at Milng is running tests and sends to Perth every Sunday after the news broadcast. Four stations worked him on 21/7/63 on 50.17 Mc.

**144 Mc.:** Graham 6ZDB has built a tx and rx tail locked, using i.f.m. for this band. Doug 6ZDW has built and test sets are being conducted as the basis of the VK6 carphone net. The rx has a xtal converter feeding into a 5.5 Mc. i.f. strip so that standard t.v. components may be employed if necessary.

**430 Mc.:** There are three converters going on this band and more under construction. I believe quite a few of the boys are planning to build a 430 Mc. QCRG/200 sent in the bottle most sought after. As techniques at this frequency are a complete change from v.h.f. on 50 and 144, some interesting results should be expected and a lot of the local boys will be relearning and revising some of their theories.

**General:** Tom 6ZCP is now 6DP and Bill 6ZDC is now 6DD. I believe 6MM was at Kalgoolie staying with Bill 6DD and on conclusion of a contact with another Amateur they called the Disney group. May be some day we will have Pluto on the band. Remember chaps, this v.h.f. column is only as good as the boys get to it, so if anyone and we will out-doe VK5 yet, 73, Alyn 6ZDM.

### TASMANIA

The July meeting had a roll up of an even dozen and there was so much business and so many controversial points raised that Wilf TZAQ did not have time to deliver his lecture. The meeting did not end until 11.00 p.m. Discussion included t.v.i., Jamboree-on-the-Air v.h.f. link and the Youth Radio Scheme. A lengthy discussion was also held on the subject of discipline.

**50 Mc.:** DX at last! But only in very minute quantities. On 6/7/63 Wilf was successful in working two stations, the JVA boy and heard a couple of VK2s and VK4s. During the past couple of weeks, a few weak S.S. signals from VK2 have been heard by Dave TZAQ. But I have not heard any of the new ones working or hearing DX. Not a great deal of activity during the cold winter months here in Hobart, I guess a few openings may have been missed.

**144 Mc.:** John TZJG is a newcomer to this band and is heard on most week-ends and some

times during the week. No 3 rx rig at this QTH yet, so I had to go to Hobart with the mobile to work him. Winston (ex TZAP and ZZWV) now TZAP again, is quite active on this band and has his comprehensive mobile rig working very well. Not much news of activity from up north, but some leaks through via Eric TZEC and 24000. Eric works through to Hobart with 5/9 sign up a path of 90 miles and keeps us informed of the doings up there. 73, TZAV.

### PAPUA

**50 Mc.:** Several weak JA signals were heard on 7th July from 1500 to 1600 hrs. and again on the 8th around 1920 hours E.A.S.T. peaking at around 52. On the 8th, two weak unidentified signals heard at 1925 bearing E.N.E.; the accent sounded American but signals were not strong enough for any positive identification. The freq. was approx. 50.3 Mc. JA was again heard weekly at 2025 on 21st July and again on 22nd July. On the 21st, the low end of 49 Mc. heard at 53 from 2040-2105 hrs. this night. No other DX was recorded during July. The usual ionoscat 49 Mc. stations were heard on 7th and 8th, 11th, and 21st July.

**144 Mc.:** No activity during the month and no signals heard.

By the time this appears in print your scribble will be enjoying the cold weather of VK3-land, however, it is returning to the tropics at the end of November just in time for the summer DX season. 73, Roy 8AU.



## Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

### "HISTORICAL GLEANINGS—1914"

Editor "A.R.," Dear Sir,  
The section in August "A.R." entitled "Historical Gleanings—1914" has been read with interest and will inspire nostalgic memories from many old timers.

I would, however, like to make a slight correction to the article regarding the contact with S.S. "Ophir" in 1901. This was actually the work of my father, H. W. (Walter) Jenvey, who was then Chief Electrical Engineer to the Victorian Public Office. He was, at the time, operating his own experimental wireless station at Red Bluff, near Elwood, call sign RB, and was requested by the Victorian Government to establish the station at Queenscliff for the purpose of transmitting a welcoming message to the then Duke of York. As it transpired, S.S. "Ophir" did not carry wireless but H.M.S. "St. George," the escorting cruiser, was fitted and two-way communication with Queenscliff was established. The ship carried out to 30 miles. This is, so far as is known, the first recorded occasion of wireless communication between shore and ship and from Australia.

It may be of interest to know that the tape recordings of both sides of much of this historic communication are preserved in the Melbourne Public Library. Cohorers were, of course, used and these operated a Morse inker for the benefit of those who could not read by sound. I trust that the above details will be of interest.

— W. W. (Bill) Jenvey, VKZCO.

### RE "YOUTH RADIO SCHEME"

Editor "A.R.," Dear Sir,  
Try as I may I cannot convince myself that the Institute's work in attempting to establish Radio Clubs in Schools, is, from the student's point of view, a good thing.

The high rate of the depression years, together with the post-war boom, resulted in a big demand for labour until the early 1950s when the trend was reversed. Since then the position has shown only slight improvement.

The point of this is that whilst one could get by with a rudimentary education at one time that time is now past.

The education of kids today is very important, and in years to come will assume critical importance. It is therefore, nothing, and certainly not a hobby, should be allowed to interfere with a child's education.

Now, some headmasters report that Radio Club members show good results (and, of course, improved) results in studies, however I feel that you and I (as Hams) are in a better position to judge the effect of Amateur Radio

on a child's education because we (or I anyway) have been observing it for years with great interest.

In all too many cases the results are detrimental (essentially at tertiary level).

Radio is not a hobby like stamp collecting or bird-watching, it is a science with challenging and absorbing practical aspects.

Kids see it as this and with the zeal and curiosity characteristic of youth (and what a pity it is wasted!) usually trying to explain to them that they won't be able to make a living out of it.

You can't convince youth that its effort could be directed towards qualifications that will give it a worthwhile job in life (well, usually you can't, in some cases the kids have sufficient wisdom to see what's really important!).

I have seen this happen time and time again, the child often completes his education successfully, but in many cases he does not and in practically all cases there is at least some detrimental effect.

Now I'm only speaking from my own observations and I am not advocating that the Institute drops the scheme, as I am sure it won't.

But if someone can demonstrate to me that the pursuit of Ham Radio can, in the majority of cases, benefit a child's education, then please do so.

It is a pity that most misinterpret my motives, let it be borne in mind that I have spent large quantities of time and petrol, for no financial reward, in this pursuit. I have lost most of whom had left school and am directly responsible for a number of chaps being licenced. That last paragraph was distasteful to write (as it probably was to read) but sure as I do not include it someone will say I'm just plain lazy.

—Al Rechner, VKZSCR.



### A THOUGHT FOR THE SHACK

"Now it's on? . . . is it off? . . . I can't remember which. I think it's off!"  
His tombstone says:  
He should have used the switch."

(Ack. ZSS "Banana Blad." —BERS195/13042.

### W.I.A. D.X.C.C.

Listed below are the highest twelve members in each category and those whose totals have been amended will also be shown.

#### PHONE

Call No.	Cnt. ries	Call No.	Cnt. ries
VK6RU	2 284	VK3JWL	14 211
VK6MK	43 282	VK3ATN	28 204
VK3AD	278	VK3JH	71 182
VK3DIO	51	VK3JG	23 186
VK3AFJ	21 254	VK3JZ	61 185
VK3KW	4 211	VK3JG	50 183

New Member:  
VK5GGG 53 100

#### C.W.

Call No.	Cnt. ries	Call No.	Cnt. ries
VK3KB	10 312	VK3AGH	71 241
VK3JH	66	VK3JH	72 239
VK3AFJ	29 281	VK3JH	15 226
VK3QL	5 278	VK3JH	6 222
VK3JH	12 266	VK3JH	22 220
VK3RU	18 243	VK3JH	27 220

Amendments:  
VK3JH 75 214 VK3JH 42 202  
VK3JH 65 213 VK3JH 70 169  
VK3JH 47 167

#### OPEN

Call No.	Cnt. ries	Call No.	Cnt. ries
VK3ACX	6 300	VK3JH	3 269
VK3JH	12 259	VK3JH	43 252
VK3AFJ	32 280	VK3JH	47 225
VK3MK	14 284	VK3JH	4 223
VK3JH	12 286	VK3JH	4 221
VK3JH	76 272	VK3JH	45 225

Amendments:  
VK3JH 82 210 VK3JH 90 108





# FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

## FEDERAL

### FEDERAL EXECUTIVE MEETING

The President expressed regret at the bereavement of Vice-President Max Holl (32S) whose mother passed away during the week. Members resolved to record their condolences in the minutes.

Correspondence included information from the 7th Australian Jamboree to be held in Victoria in '64/65; approval by the P.M.G. on the use of 1V4 by Amateurs; disapproval by VK2 of the new Membership Certificate; comments by members on the Oceania question (VK-ZL Contest); and routine correspondence from the Divisions.

George Glover made mention of the 7th Australian Jamboree and participation by P.E. in providing Amateur communications facilities. He said that in response to our request, plenty of notice was being given us on the occasion so that proper arrangements and preparations can be made.

It was reported that some informal discussion had taken place with the Department regarding Rule 12, but that the matter was being further investigated.

Ron 3RN, representing the Publications Committee, exchanged views with the Executive on several matters of interest. It was assured that in future the Publications Committee would be reliably informed of the date and venue of F.E. meetings.

### HISTORICAL NOTES

Anyone with records or knowledge of Amateur activities in the early days is invited to send any notes they may have to George Glover, VK3AG, C/o. Box 2147T, Melbourne, for inclusion in his series in "A.R."

Incidentally, George recently produced a copy of a booklet published by the then Wireless Institute of Victoria in 1914. Items in this are of particular interest and of course will be returned, if required, after the contents have been copied.

### "HAM TIPS"

We understand free copies of R.C.A. "Ham Tips" can be obtained from R.C.A. Electron Tube Division, Harrison N.J., U.S.A.

### CHINESE PROPAGANDA

A rumour exists in the News Services that W.I.A. members have been circumscribed by the Chinese Government concerning the current ideological split between them and the Russians. However it appears that S.W.I.s, who have reported on Radio Peking, are the actual recipients of the documents. While these people may be W.I.A. members, it would be unfortunate if published comment inspired by turn of phrase that they received the pamphlets because they were members of the Institute. We must be careful to ensure that no impression of political, or any other kind of alignment is created concerning the Institute, which is completely divorced from such matters. Therefore, members desiring publicity must pay for their remarks as this should take care that their remarks are not misinterpreted.

### FREQUENCY CUTS

Reports of frequency cuts, as quoted by "official sources" in Queensland, are entirely erroneous. Members in doubt about this might reflect that the matter is not in the hands of the aforesaid "official sources" and that the W.I.A. is represented on the Committee that does decide these things.

### FROM BEHIND THE IRON CURTAIN

Doug Bowie, VK3DU, and a former Federal Secretary, has written from Moscow telling of his journey through China to the President of the luxurious Trans-Siberian railway, on his current world tour.

Doug says that he stopped over for three days at Ir Kutch in Siberia, and that the warm hospitality of one of the local Hams. Unfortunately he was unable to visit the local Radio Club, but left sample W.I.A. Certificates and a W.I.A. badge for the President. When he arrived in Moscow he visited the Moscow Radio Club, where members admired the W.I.A. Certificate that was presented to them, and the President was delighted at the

gift of a W.I.A. badge. Doug also had the opportunity of visiting local Hams' home stations; being driven around in a member's car.

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## FEDERAL QSL BUREAU

Activity from Prince Edward Island (Canada) has been organised by W9NLJ during 24th and 30th Sept. 1963, and also during the annual VE/W Contest. While most operating is planned for c.w. near 3942, 7042 and 14942 Kc., s.s.b. will be available at times. Operation on other bands is subject to prevailing conditions. Contact with P.E.I. is an essential for those wishing to qualify for the W.A.V.E. award. All QSLs will be answered via BUREAU unless a.s.e. is enclosed. For specific schedules and any other information, contact T. E. Pederson, W9NLJ, 5138 Pepin Place, Madison 5, Wisconsin, U.S.A. The call sign to be used from P.E.I. is W9VEI.

Fred, VKRHB, who is currently making a big noise on 14 Mc. c.w. between 6602z and 6900z almost daily, is a Swiss lad who is employed by Cannel Airways. Fred, who has some nice equipment, is helping many stations to achieve the W.A.V.K.C.A. award.

Olavi OIEBBB, active on 14 Mc. from Aland Island, during August and possibly later. Aland Island enjoys separate country status and all bands will be used. Mode is stated but all QSLs go via W2CTN.

Advice has been received of the formation of A.R.A.—Amateurs' Radios Algerians—as of May 1963. This Society is the only official body for amateurs in Algeria with address Postbox 2, Alger, Algeria. The QSL Bureau will be conducted by G. Deville, 21 Boulevard, Victor Hugo, Algiers.

The overall poor conditions that have persisted in VK on most of the DX bands during the past few months is reflected in the steep decline in the number of QSLs received in July when the total fell to just over 3,000 cards.

—Ray Jones, VK3RJ, Manager.

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## NEW SOUTH WALES

The monthly general meeting of the VK2 Division was held in Wireless Institute Centre, Crownes Nest, on Friday, 25th July. A good attendance were treated to part two of Bob Winch's (20A) lecture on "A.v.c. for S.s.b."—a most informative and entertaining follow up of his previously given lecture on this very complex subject.

With the Jamboree-on-the-Air just around the corner (Oct. 19-20) we do urge all Amateurs throughout the South-East to actively participate in this very worthwhile international radio "get-together". A number of enquiries have been received by Council from enthusiastic Scouts anxious to make personal contact with Amateurs who are prepared to make their shack available for all or portion of the week-end.

Readers who are desirous of obtaining Slow Morse Recordings will be pleased to learn of the latest arrangements made by the VK2 Slow Morse Co-ordinator, Frank 2ACQ informs us that he anticipates being able to supply disc recordings with 40 minutes of nominated speed Morse for the approximating price of 12/6 per disc. There will be further information on these very satisfactory arrangements in the near future.

To the organizers of the South-West Zone Convention at Narandera, Council wishes you every success for the 6th and 6th October. This holiday weekend gathering is sure to be a most interesting and enjoyable period for those fortunate enough to be able to attend. The subject for the lecture at the October general meeting at Wireless Institute Centre

## SILENT KEY

It is with deep regret that we record the passing of:—

VK3CH—A. C. Harris, 1/8/63.

will be titled "Communication Logic". This lecture will be ably presented by Vol Morseworth (2VO), 13, 25W.

### HUNTER BRANCH

The August meeting of the Branch was held on the 2nd at the University College. The "do it yourself" type of night has proved very popular of late and this meeting again took this form. Those who described gear chose widely differing topics and a most instructive night was had by the 29 who attended.

Frank 2AFO displayed a model of his one-man antenna mast and gave a very full description of its design. Those who have seen the installation agree that it is an excellent idea and Frank has even suggested that he might write an article for "A.R." Next came Stuart 2AYL who displayed a very interesting transistor audio oscillator which could be continuously varied from 15 c.p.s. to 15 Kc. for use in testing and alignment. This was a practical design which worked extremely well. Stan 2AYL, besides being QSL officer, has the reputation of being the best chassis maker in the area and in his talk we found out why. Stan showed how to make a multiple chassis drilling jig, the one on display being for the Minitrans project.

Steve 2ZKY, who was reported to have a swimming pool in the back yard, told the meeting the full story of the 60 foot mast, for which the hole was dug. This was a very interesting listening and all present learned some very practical physics in connection with the problems associated with the erection of large lattice towers. Keith 2AKX had on display that strange black box, the 2AWX tx and, taking care to hide the untidy bits, described its design. The final lecture, which the evening was Bill 2ZWM who had prepared a printed diagram of his "stand-by receiver" made from surplus parts. The set was an excellent example of thought and ingenuity and Bill to be congratulated on an interesting lecture.

Ian 2ZIF moved a vote of thanks to the lecturers and this was followed by acclamation. Arrangements for the Dinner and Field Day to be held in October were given by Les 2RJ, our worthy President, at the meeting. His right hand man, helping 2ZG, and Bill, for your information, here it is. The usual meeting of the Hunter Branch set down for 4th October will again take the part of a "do it yourself" night but there will be a competition for the most interesting lecture and a prize will be awarded. It is hoped that as many visitors as possible will take part in this activity and the rules are simple. A maximum time of 10 minutes will be allowed

## W.I.A. N.S.W. DIVISION

### Hunter Branch

### TWELFTH ANNUAL

### CONVENTION

to be held

4th, 5th and 6th October

Friday 4th at Newcastle University College, 8 p.m., competition night.

Saturday 5th at Esplanade Hotel, Telford St., Newcastle, 7 p.m. Annual Dinner.

Sunday 6th at Marmong Point, Lake Macquarie, Field Day.

For full details read Hunter Branch notes and the September Bulletin.

Book now with Hon. Sec., G. Sutherland, 15 Marine View, Newcastle, or Pierce Healy, 69 Taylor St., Bankstown.

Convention: £15/0 per person. Field Day only: 10/- per family ticket.



for each speaker to describe and demonstrate his gear which must be shown working. At the conclusion of the meeting an award will be made to the lecturer who, in the opinion of the members, has presented the best. So here's your chance to describe that piece of gear. Remember all members and visitors, whether associates or not, are invited to take part.

On Saturday, 5th October, the Annual Dinner will take place at the Esplanade Hotel, Telford, W. 10, commencing at 7 p.m. The guest speaker on this occasion will be Mr. Barry Beresford, of the Mullard organisation. Tickets will be 25/- per person for Dinner and Field Day.

A new location, Marmong Point, near Teralba, on Lake Macquarie, has been chosen for the Field Day this year. The day will commence with an all-band scramble and events during the day will include tx hunts and a disposals shop with a launch trip for those who wish to get away from it all. The most popular event of the day is expected to be the multiple 2 mx tx hunt during which several tx's may be hidden within a mile. 5 members will be competing for prizes for the contestant who finds the largest number and for the tx which remains undetected the longest time. For the Field Day only, the admission charge will be 10/- per family ticket. Hot water will be available free and there is a well stocked shop for all your needs. The car park will be within a few yards of the park. All details of the convention will be found in the Sept. Bulletin.

As far as activity round the Branch is concerned, I am sure that they have all gone into hibernation, or else, like Bill Z2K are playing a little bit of a game. The 2000 ft. line for the railway so it's quite safe to visit him again without being asked to carry buckets of concrete out to the site. Jim Z1HT has the new Collins rig in full operation now and is having a great deal of success. He has at least eight new countries added to his score during the year. The past month has been going as I cannot remember having eight all told as yet. Jack Z2K, who, by the way, is just out of the hospital, has been a very proud owner of a super selective receiver which he built himself. I dare not give you details but watch out Mr. Collins. Bruce Morley is mulling over the possibility of buying a pair of the two in line gear and buying a Drake. One rather nasty type told him to get some ducks and a few more of the same.

Bob Z2QR really flattered me the other day. He reported my signal four S points louder than Bill Z2LJ. Mr. Rose, who will never do it, still thinks I am a bit of a snob. Gordon Z2ZG is having another holiday, no doubt a big swindle to get the rest of his gear on the air. Tom Davis is a bit of a snob, having a big sale any time and Mac Z2MO is still trying to straighten out the S meter needle which was bent when Kev Z2KW put on the signal from the new tower. Big Ben Z2HA Harold Z2AH's tx, is having the cobwebs brushed out which you will agree is a good thing. Ken Z2XX is still a bit of a snob, forgoing the Orientair and Bill Z2ZK is watching his aerial get further and further out of sight as the tree grows. Up in Cessnock where the grass is growing, the trees are growing and the birds are still hard at it keeping the viewers happy while one of the boys, Sherwood, dreams all day about his latest love—a beaten up AFR. The side wind is really blowing the boys and abandoned all thoughts of getting on the air and is going to be an s.w.l. for good. And I suppose you will be more to tell out that's about it for this month.

Don't forget the next meeting which will be held, as all other Hunter Branch meetings, in Room 35, Classroom Block, Newcastle University College, at 8 p.m. on Friday, Sept. 6. The lecturers on this occasion are from the Central Coast Radio Club. Ken Z2ZK will talk about a converter for 80, 40 and 20, and Lindsay Z2ON will examine the selectivity curves of receivers using a wobulator and oscilloscope to control slow wave tubes. Interesting talks. Just before I close, did you know that we may have another call sign in the near future? The next exam? Well we're hoping. 73, Z2AXC.

#### BLUE MOUNTAINS SECTION

The July monthly meeting was well attended, there being 12 members and 4 visitors present. The new heater proved to be more than a taste for those present at the meeting. A tape lecture on "Silicon Diodes" was given, and was well received by all. A tape recorder and a slide projector were made available for this lecture. Thanks go to Dennis Z2AW and yours truly for providing the premises, the heater and the projector.

Keith Z2BK has acquired a new car, with which he is trying to prove it is the fastest car on the road, even before the smell of new

paint has worn off. I am very pleased to hear that John Z2NC has decided to come up on 2 mx again. Reg Z2MR and Stephen Z2SK are now happy again, John is constructing a s.s.b. rig.

Anyone listening on 2 mx may have heard some strange signals on about 144.8 Mc. It's really nothing to worry about. Norm Z2A has been sending Morse at a very slow speed for you and you and anyone who may be interested. Norm, an ex instructor with the Forces, has been doing a really good job. Ken Z2YN is also going to join in on this instruction and relieve Norm to some extent. It looks as though there could be Morse instruction on two nights, instead of one. For those interested, listen around 1900 hours on Monday nights.

Stewart Z2LJ ran into a rusty nail and made a mess of his leg and had something like two months rest from work, but during this time his mouth was working overtime. Stewart is putting a 4 plus signal on this shack, and it sounds a really good signal, audio wise. By the time you read this Stewart should be back at work and fully recovered from his 3 months rest.

I had an over or two with Jack Z2DF the other night. He had two lads from the Penrith High School in with him. Jack, who is a real marks man, it appears as though they have a Radio Club in operation each Monday lunch time. Yours truly has donated a \$22 rx for use by their club. The club has about 12 members, and instruction is given by one of the teachers. Looks like we have another school radio club for the Youth Radio Scheme.

Derick Boyd is still waiting for his call sign. Derick has obtained his full call and at the time of writing, do not know as to what frequencies he intends to operate on in the immediate future. Ray Watts, of Mt. Druitt, was to leave sat for the next exam, and under the guiding eye of Warwick Z2W we hope that Ray has done the right thing by his instructor. Best of luck, Ray.

Dennis Z2AW is still preparing for Amateur tv, and next month I hope to have some details of his equipment. For those concerned, I will give details of the method of reporting his work on Sunday mornings. Z2AW reports to Z2WI at 1030 hours with any news from this section. At 1000 hours yours truly (Z2NS) calls Z2AW to give him any information that has been put in since the last time we met. I report in on 2 mx to the station who will be doing the v.h.f. broadcast on Sunday night. This station will then report to Z2WI at 1025 hours. Anyone in the Blue Mountains Section can contact either Dennis or myself and we will pass on the information to Z2WI. 73, Z2NS.

#### CENTRAL COAST ZONE

Reports received from Doug Z2SA are that he is enjoying his tour of W-land immensely. He has been worked from VETTD, W6GTGP and W4GEXN along the West Coast as far south as San Diego. He should be able to tell us what Greyhound buses look like when he returns. Phil Z2TX is still away in Jaland. The catbird is being annoyed by Albin Z2AAK, who returns from a short trip to VE and W. At a recent Gosford Radio Club meeting, the time Z2TX spent at the club was a simple crystal-controlled converter for 80, 40 and 20 mx and Lindsay Z2ON demonstrated selectivity curves of the BC435 and Drake 2A. The catbird really enjoyed the wobulator. The output is taken via the product detector which gives an accurate picture on an ordinary oscilloscope.

## W.I.A. N.S.W. DIVISION South Western Zone ELEVENTH ANNUAL CONVENTION at NARRANDERA 5th and 6th OCTOBER, '63

Hotel, Motel and Caravan Park accommodation available.  
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Frank Pearson, VK2ACQ,  
42 Frederica St., Narrandera.

Congratulations to Geoff Z2XA (formerly Z2GM) on obtaining his full ticket. He now operates an HT37 from Kanwal. When tv, servicing permits, he is heard on 80 mx side-band. This is a very good thing. The admitting members are likely, as John Z2ND is ably managing electronics theory classes for about 30 club members. Harry Z2BU has a lot of experience with some practical demonstrations of components. Major Z2LX is President of Woy Woy Rotary Club for the next year, and may be heard on 80 mx often on 20 m. Former club member, Peter Van Gemert, was heard from Z2AGN at Bathurst recently, and also on the same mike that old identity tag was in. This was a very good thing. We have to take a course of slow telephony—very appropriate for a man with fingers calloused by Morse key manipulation. Graham Z2AGN got a lot of letters and news towards the end of this memorable contact—after all, it was his station! He uses a Viscount tx.

Red Z2CU is missed by the boys. He is holding the fort at Concombe for some time, but manages to talk to us with the Swan transceiver most nights for a few hours on 20 m. This is a very good thing. We have been with counting machines. A welcome visitor to the district recently was Stan Z2ZE, from Wollongong. He has been in the district since that city's bracing climate to enjoy a few weeks by the lake at Toukley.

Fred Z2ALJ very pleased with his home-brewed s.s.b. phasing circuit on 80 mx and gets good reports—nice bottle, the 6DQ3. Bryan Z2JV is almost ready to go, with a lot of experience. He is still heard talking to his ZL friends and others on 80 mx. Norm Z2ALJ has finished building his house at Terrigal and should be able to come to see him at the club recently. 73, Z2ON.

## VICTORIA

### JULY COUNCIL MEETING

The cold weather kept several members away, but by starting a quarter of an hour late, we made a quorum with a margin to spare. Among the items discussed during the evening was the matter of Membership Certificates. This Division has used all they had and the Division has asked the Council to do the existing job. As this is really a Federal matter, Federal Councillor will take the matter up.

The Air Force Association asked the Division to provide an exhibit at their show during the early part of September. This request was referred to the Executive Committee. After lengthy discussion, Council agreed that it could not accede to the request, as the time available for preparation was insufficient, and it was preferable to have to show than one which was below the required standard. It was decided to form an "Exhibition Subcommittee" and the chairmanship of Kevin Z2ARD to handle future exhibitions, and make sure that a high standard is maintained.

Ten names were considered for admission to the Division, four being for full membership and six for associate. These names will be submitted to next general meeting. The names were raised by the members, and despite several gentle hints in these rooms no improvement has been noted. If anything, the condition has grown worse. Therefore, the names will be submitted to the next room. Any Group not co-operating, will have their proposals withdrawn.

It was decided that the offer by Keith Z2YQ to make two test re-broadcasts on Sunday evenings would be accepted. The future of the additional outlet will be decided in the light of results.

We have a volunteer for the job of producing news letters and to attend the August meeting, to hear a discourse on DXing. Ken Z2JRG covered propagation conditions, Ivor Z2JRG covered the downward QSL side of it, and Ray Z2RJ spoke on the upward QSL side, inwards QSL bureau and awards. Time ran short, so question time was cut short and left for the normal meeting.

Somewhere along the line it appears that I missed publishing the fact that the change of meeting place was a permanent move, and the result of the move was a change of location. So friends, please remember that all future meetings will be held at the rooms at 418 Victoria Pde., East Melbourne.

Very little general business was discussed, but the President did report that expert opinion had been sought on the problem of heating and ventilating the meeting room and that we were awaiting a quote for the work. This should arrive shortly and no time will be lost in carrying out the work. As I left early I cannot vouch for the time everybody left, but no doubt the evening followed the usual pattern and saw the last one leaving in the early hours of the morning.

On 2nd August, John 3OR and myself attended a meeting at the headquarters of the Boy Scouts to consider aspects of the Jamboree-on-the-Air. As Council has already reviewed this matter, we were able to tell the Scouts that they could be assured of our full co-operation. It is now up to the Amateur fraternity not to let us down. Elsewhere in this issue you will find details of what you can do to help in this most worthy enterprise. We have agreed to make 3WV available for an official message to all participants at 8 p.m. on the Saturday of the event and all stations are asked to listen. That, I think, covers matters on an official level.

I believe a new record has been made in the v.h.f. range, that is assuming that 525 million megacycles is v.h.f. The distance is 200 yards. I have had the good fortune to use the equipment, which was constructed by one of the younger generation of enthusiasts. Having given considerable thought to this

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## OBITUARY

ALFRED CHARLES HARRIS (VK3CH)

The death occurred suddenly at the Ouyen District Hospital on 1st August, 1963, of Mr. Alfred Harris, VK3CH, aged 62 years. Although a resident of Birchip, Alf spent his earlier years at Rainbow. At Birchip he was in charge of the power station for many years.

Alf's radio activities go back very many years and he will be sadly missed by old-timers on the bands.

We extend to his family and relatives our deepest sympathy.

equipment, I'm still not sure whether f.m. or a.m. was used. The fact is that the d.c. input to the final is modulated, but the output is 100 per cent. a.m. operated. This is a megacycles. Quality of the received signal is quite good and I for one will be following the progress of this equipment with a great deal of interest.

Now for the ex VK3 chairman. It sure takes him a long time to catch up with things. That is, the member who was on VK3 Control for the last three years, and PanSy could not be speechless for that length of time. Just ask the editor. For the benefit of an VK3 readers, you will call to mind that 3PS has not been game to come to Melbourne since that memorable occasion he mentioned in his notes, although 3PS are prepared to call a truce for a maximum period of seven days. I see he has not made mention of his sideband rig and no further info has come from our correspondent. Perhaps the rig died an unnatural death. 73, 3AFJ.

## WESTERN ZONE

The Western Zone now welcomes two newcomers to its ranks—Neil Granville (3AQD) from Ararat and David Giles (3ADS) from Glenorchy. We are looking forward to hearing them on Wednesday nights. Rodney, a regular attendee to our Zone Conventions, is now heard on the hook-ups with the call sign of 3CUP/P.

Another new call, Max 3AR, of Laharum, will soon be on the air, as Max informs me that the rig he is building is nearing completion. Gavin Bain, of Warracknabeal, has set for the exam.

Merv. 3AFO will be in VK6 by the time these notes are out and hopes to work back to the Western Zone from one of the many VK6 stations. Others in the Zone who have had pleasure of having holidays away lately are Alan 3HL, Trev 3ATR and Bill 3AKW. The Western Zone Convention has been discussed on the hook-up of late and it appears that Ararat is the choice for the Convention this year.

There is quite a bit of building going on in the zone. Garry 3ZOS is building a 6 m.x. sideband rig and quite a few others are building the right kind of antenna. Bill 3AKW has only another three months to wait for connection to the S.E.C. power. It will not be long and the S.E.C. will be 100 per cent. a.m. operated. I have been asked to mention in these notes that the Scout Jamboree-on-the-Air is on Oct. 19 and 20 and Bill 3AKW is again doing the co-ordinator, so get in touch with Bill if you are interested in taking part this year. 73, 3ATS.

## SOUTH WEST ZONE

The Zone always seems to be very busy. Bill 3WK has been busy working on modulators, towers and vertical antennae. 3ARJ, better known as "thunder" John, is finding a little more time for the bands; hope he can keep it up. Sorry to hear that 3AKN is back on the sick bed. Well, it is a pity, but soon on the mend. Here that Percy, Mrs. 3AKN, is taking up flying. Ted 3PS is finding a little time now and again to pound the brass, keep it up Ted. 3WZ has a portable over in VK5 land for three weeks, using a Type 3 Mk. II. By the way, Harry has a nice new car. Peter 3FX must have gone bush, haven't heard from him for a while; but about making yourself known Peter. Eric 3ANQ still spends a fair time in the shack. Norm 3WJ still chases the JAS. Wal 3UT comes on now and again, when he cranks up the rig, as he terms it.

We would like to hear more of the Geelong, Ballarat and Manaroto boys on Thursday night hook-ups. What about it boys? 3ASZ, the Zone station, is on the air most nights, particularly Thursday nights. 73, Bill Wines.

## NORTH EASTERN ZONE

Main news this month is regarding Y.R.C. We had a meeting at Shepparton during July. 3GJ attended. It was decided that 3GJ would actually look like a Radio Australia stop-work meeting. 3IG and 3ALF were to interview all the radio and electrical shops re young scrappers known to be interested in radio. Have decided to limit our club to young folk who have left school. Word has passed around and we have had enquiries from youths mostly over age 30 years.

3ACK is progressing very well with practice on his electronic organ. Sorry Mr. Ed., 3APF was making a transistorised rev-counter, not a re-counter.

The 2 m.x. dinner time network has become too well patronised, resulting in some members not coming on daily. Three clubs have agreed to be nominated for membership—Vin 3AVT, Frank Markham, and Ted 3ADB.

3IG recently constructed a crystal controlled converter for 7 Mc. to a car radio. This lad is to be married early in November. 3ALF has not as yet obtained a windmill tower. 3AYD is putting up a new penning pattern on his screen. My t.v. is interfering with my own rig; line oscillator gargles at regular spots on the 80 mc. band, so will have to try some filtering. 73, 3ASY.

## MOORABBIN AND DISTRICT RADIO CLUB

I am writing this month on the theme of reminding W.I.A. members of some of the activities of our club. An activity which members are enthusiastic about, and which no members may participate in, are enquiries to the Honorary Certificate, is the Club net on 3.8 Mc. This is now scheduled to commence at 2030 hours every Monday night and is still proving a popular both for members and non members.

Our meetings, both formal and non formal, that is, on the third and first Friday nights of every month, attract a good attendance even on these cold wintry nights, and now that spring is here we expect better than ever. An attraction of our bi-weekly dinner and auctions (white elephant nights). These are becoming even more popular, especially with our young members on whom we have a good percentage. Any person, no matter what his title is eligible to join our club, so long as he is interested in radio in some form.

Special evening sessions are also very popular. The Sept. evening is of a different type, and is being spent at the Ten-Pin Bowling Alley at Brighton on Saturday, 28th Sept. Last month we had the pleasure of Bob 3NZ and his XYL as our hosts.

— : —

## QUEENSLAND

Our Sunshine State Contest went off well.

Federal Council recently requested informa-

A newcomer welcomed to the pipe smokers'

Tommy 4ZAL has been getting amongst it

Did everyone hear Jimmy 4HZ on s.s.b.?

wrong with the new one.

near that Bill the main stay of the institution has given Amateur Radio away. I suppose

ily poured by Frank 42FA.

quisitive. When informed that it was a snort

Claude 4UX, who has been using c.w. lately

Frank 4CW lost his father recently. Mr.

By the time you read this Viv Wright will

Lou Sharpley, an associate s.w.l., will be

The Bundaberg Club are making progress

**SUPPLEMENTAL TABLE 1**

## WIDE BAY AND BURNETT BRANCH

Two of the Bundaberg boys, Arch and Lee

The Gympie Radio Club has secured rooms

OF THE STATE OF TEXAS, I, J. L. GORDON, County Clerk, do hereby certify that the foregoing is a true and correct copy of the original as the same appears in the records of the County of Tarrant, State of Texas.

## TOWNSVILLE AND DISTRICT

check the winning logs.

This morning heard John 2Q1/M on 2.5 Mc.

ERZLI 42 W HAS NOW JOINED THE TUNERS OF THE

Charlie 4BQ still on the sick list and cannot

Wonders will never cease. August "A.R."

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

SOUTH AUSTRALIA

## SOUTH AUSTRALIA

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understand is the resident at ADST, up on Mount Lofty.

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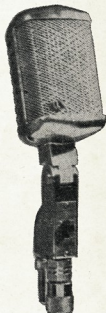
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A wreny bit of birdseed of course. Oh I am glad that I have not that mind of yours. How low can one get!!

Jim 5JK about to enter hospital for an operation, although when that being read out, it will probably be a long time before I understand he was about to enter a lift at one of the city stores and copped the lot from under his feet. I know it only too well. Just shows, one can't be too careful. Bad luck Jim.

So the secret is out. Pincott 3APJ is writing the VK3 notes and has been doing so for a long time. Well, what do you know, wouldn't you have thought that someone in the know would have known that little bit. I have expected the chassi-giver-awayer Ron 3RN to have dropped me a line to tip me the ebb and flow had to tell me to keep mum. Well, see if I care. Anyway, it only shows just how much consideration the VK3 members have for one of their Presidents, even if only for ten minutes. My turn will come!

News is at a very low ebb from the South East this month and can only be blamed on the cold weather which has been prevalent throughout the State for the last couple of months or so. However, news at a low ebb does not mean that the VK3 members are without. Stuart 6MS has been rebuilding his transmitter, although from what I hear the one-day delay has been a long time. I am sure with Amateur Radio just backing even. What's that? you deny it? Well it made a paragraph didn't it? Claude 5CH usually to found out how the VK3 members are doing. I heard on 14 Mc. Personally I can hardly believe it, but the report came from someone who has been there, how else can it be? What about it Claude? Leo 5GJ not very active. In fact his only claim to fame this month is that he has two TV beams on top of his house. I don't know how it will bring him I cannot say, but I received the news with a tinge of sorrow. Erg 5KU, who has been a constant presence in the column, either with radio or gliding, says nothing of his exploits on c.w., has not been heard this month. It sure must have been one of those days.

Les 5ZLS, Dale 3ZER, and Gary 5ZGR are also among those very busy rebuilding the gear during the winter months. I don't know how they can do it, but they are doing it with enthusiasm. Col 5ZEF has been transferred to Penola, and whether the move inspired him or not, cannot say, but he is reported as being in the best of health. The 5ZEF model setup. Col 5CJ has found that with the changing conditions on 7 Mc lately, he has been unable to maintain the same level. Now famous "lunchtime session", he also reports that 89 mc is much more reliable for the Sunday 5W session.

Including the very welcome letter from Cec 5BZ who is apparently having the time of his young life holidaying in G land. He was lucky enough to start the R.S.G.B. 50th Anniversary celebration, and was right in the thick of it all. He spent the Tuesday visiting the B.B.C. Centre at White City, which almost certainly kept him very busy. He dined and wineed at the London Members Luncheon Club; Thursday an all day trip on Father Thames to Egham and Guildford; and on Friday, the R.S.G.B. Grand Jubilee Dinner. Cec was tickled pink to be a VK5 among the 400 odd hams from various parts.

So, as you can see, I am definitely against my normal desires. I am finding myself of late in these notes increasingly beset by the temptation to tell little items of interest that keep me bobbing up in the magazine. It irks me of course, because in praising the magazine I am placed in the ridiculous position of praising myself. The Publications Committee, and when you realise just how harshly they treat me in return, you will understand my position. However, my natural pure-mindedness, my inborn quality of fair play, etc, etc, plus the fact that I am prepared to forget the past and to look to the future, has made me ask "Did you read the profile of VK3BZ in last July's magazine?" If you skipped it, go back and read it. It is a little bit of biography which will do us all good, and prove nothing else, that the young people of today are just as good as we were in our day. Results are not the end, but the means. Although it hurts me in the process, I salute the magazine and those behind it.

Had I known that this was the Sydney 5CU who was portable at St. Kilda in VK3, I would be better remembered as 5ZCD of Bordertown, and is at present residing in VK3. I have also been remembered as 5ZCD of Bordertown, and is at present residing in VK3 doing the Morse for his Commercial Ticket. Although portable he has been a good signal man, and if the dinner bell

had not rung at the hotel where he is staying, we probably still have been talking. Best of luck Rodney.

Received a letter from Ian 5QX via Brian 5CA with a few interesting details concerning the Club's new gear. Ian 5QX is a member of the Club is doing quite well and moved into the new premises early this year, and the rooming up is well advanced. Ian 5QX has rooms. The old good and faithful rhombic has been pulled down in favour of a system of vee beams which are working out real well. The Woomers Entertainment Committee, may their shadows never grow less, was talked into providing the club with some new gear, including a G300 receiver, microphone, Bendix frequency meter, model 8 Avometer, tri-band beam, etc, etc. The membership varies from time to time, due to the transfers to and from Salisbury, but the overall picture remains fairly static, which is all to the good. Ian himself has not too much spare time, but has managed to keep a couple of projects going, one a mobile rig, nearly completed, and the other a crystal filter type s.s.b. transmitter, also nearly completed. He and the regard to Rex 3DO, the members of Council, any of his friends and the members in general, to say nothing of that modest, but able, and reliable, G300 receiver, representative of the a.m. fraternity whose name will remain a secret to protect his blushes. Nice to hear from you Ian, and was particularly pleased to see a photo of the station. Made my mouth water.

Have had several direct inquiries regarding "Dundie" and the "Dundie" radio. I am a representative of s.s.b. recently dumped on my back door. He, or possibly she, is in the pink, has taken to me like a long lost relative, and quite quick to my every opportunity, despite obvious signs on my part that I refuse to converse in that mode. He or she, is the prime favourite of the minute, and is getting further and further away each day from the fate that I once consigned it . . . the oven! All attempts on my part to discover who she is, and what she is doing, have so far failed, but my list of suspects is gradually being reduced to a minimum, so take care between the lines.

It has been pointed out to me by one of my more energetic than usual correspondents that a candidate at a recent Local Government election in the area of the Murray Bridge. Putting two and two together and getting seven in the answer, suggests that I would not have been able to find the time to see or hear Bob? Called in one day at the station but they were missing. Hope you are well and still keen on the game, OM.

Compliments to the W.A. station, which is W.I.A. broadcasts on Sunday mornings are just plain non est at the moment, although the eastern State's sessions come in with a bang. Including the very welcome letter from Cec 5BZ who is apparently having the time of his young life holidaying in G land. He was lucky enough to start the R.S.G.B. 50th Anniversary celebration, and was right in the thick of it all. He spent the Tuesday visiting the B.B.C. Centre at White City, which almost certainly kept him very busy. He dined and wineed at the London Members Luncheon Club; Thursday an all day trip on Father Thames to Egham and Guildford; and on Friday, the R.S.G.B. Grand Jubilee Dinner. Cec was tickled pink to be a VK5 among the 400 odd hams from various parts.

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had not rung at the hotel where he is staying, we probably still have been talking. Best of luck Rodney.

ignore, even though every contact I have wants the direct story. "Dundie" will never die, even though I might. Yum-Yum. However at the moment I am an outcast, the s.s.b.'ers don't want me because they call me an interfering bastard, and I don't want me because they say I am a deserter, and the c.w.'ers won't have me because they say I have a glass arm. I am left for the time being in a dreary future. Bob 5OB, Bob 73 de PanSy to you. Not you Pincott.

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## WESTERN AUSTRALIA

Remembrance Day Contest? Oh, yes, by the time you read this we will be looking toward R.D. 1964. Can you still hear those hundreds of volunteers coming to you walking down the street? Hope you enjoyed yourself anyway.

My spy network (which had given me high hopes some time ago) having been disgraced, not to mention broken up, was given a fresh flip of life recently when a spy contacted me on the blower, i.e. landline transmission, and actually offered to spy the beam. —I mean, give me some news. As you will see from the interesting tidbits which follow, the VK3 members are doing quite well. So just be careful! Big Brother is watching!

Starting up north at Carnarvon, we find that Les 6L has made modifications to his 500 watt transmitter. He has also built a very solid signal with the 500 watts—er, mile path to Perth. He believes the activities of the VK3 members are doing quite well in one or two other Hams being stationed in the area and looks forward to some 6 mx work. I've heard that Les is also considering rebuilding his mobile gear and erecting a quad. Keep it up Les, nice to see the enthusiasm which is very hard to maintain when you are on your own.

Another one to change to screen modulation is "Glad" 6FG, at Milng. This is in place of grid bias modulation previously used and has been in use since the VK3 members have been received now. Unfortunately the antenna needs re-erecting after it had been under test for some time. I hope the VK3 members will get a recent gale. It didn't pass the test! Stiff Luck, Glad, I must say what it's like.

It took but a terrifying place in which to live in Milng. I heard that Ian 6CL just simply threw a pair of 6145 away recently. Well, they were not any good anyway. They would not have been able to handle a pair of drive, so Ian says. What is more likely, of course, is that Ian has been jacking up the voltage on the plate, not leaving the new tubes to get a spot of last month's wind suggest you return to the old 807 Ian, it's much cheaper. Our sympathies anyway.

Moving on to Wyalkatchem we find Clem has been busy. Clem has been busy to become another candidate for the s.s.b. stakes and will be on the way shortly with his exciter. Unfortunately Clem has a large number of other country members, has been busy also with the record level floods in the area, so the Railway Dept. has seen that Clem has had little time to get his exciter active. Clem has settled down, Clem, by the time you read this.

Taking a short step towards the East, we find that Bill 6DD at Moorle, as mentioned in last month's notes, is still active, being heard on 3.5 and 7 Mc. With a very potent 160 watts.

Moving around the metro area which had not been heard for some time is 6RS. The Grapevine and Smoke Signaler's Association have been increased by one member for 6RS has been active on the air for some months now. Ron obtained the services of a disposals rig with an 813 in the final. There is a very strong signal, and a strong beam. Guess you are in an excellent place to test beam towers, too, right on top of the Doubleview hill. Why? You can look both ways and see where the signal is coming from.

Whilst talking about metro members, I am reminded that Bill 6RX, one of our blind Ham friends, is very active. He has been doing big way, having appeared before the cameras playing the piano. Congrats to you, Bill, and best of luck to you, Alan 6YL, too, for you are doing very well. The Wireless Bird is hovering around the QTH there.

Still on the City boys, I understand that Bill 6G has been very successful in degrees of success on 20 mc s.s.b. Ralph has been using a QRE06/40 and has been heard working WA. Good work, Ralph, keep it up.

Another one to watch is Bill 6RA. Looks as though this s.s.b. is potent stuff, but with an ever growing list of contacts. Talking s.s.b. into the higher regions we find that John 6ZAG has built and re-built his 6 mx rig and I'm told has used everything at his disposal, including the kitchen sink.





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 Secondary: 2 or 8 ohms at 20 Watts ... + S.T. 25%  
**AUDIO A. & R. TYPE 921/8** 59/6  
 Primary: 6,600 ohms, push-pull.  
 Secondary: 2 or 8 ohms at 20 Watts ... + S.T. 25%

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